



**1<sup>st</sup> Meeting of the  
APT Conference Preparatory Group  
for WRC-23 (APG23-1)  
24-25 September 2020  
(virtual meeting)**

**ITU preparations for  
CPM23-2, RA-23 and WRC-23**

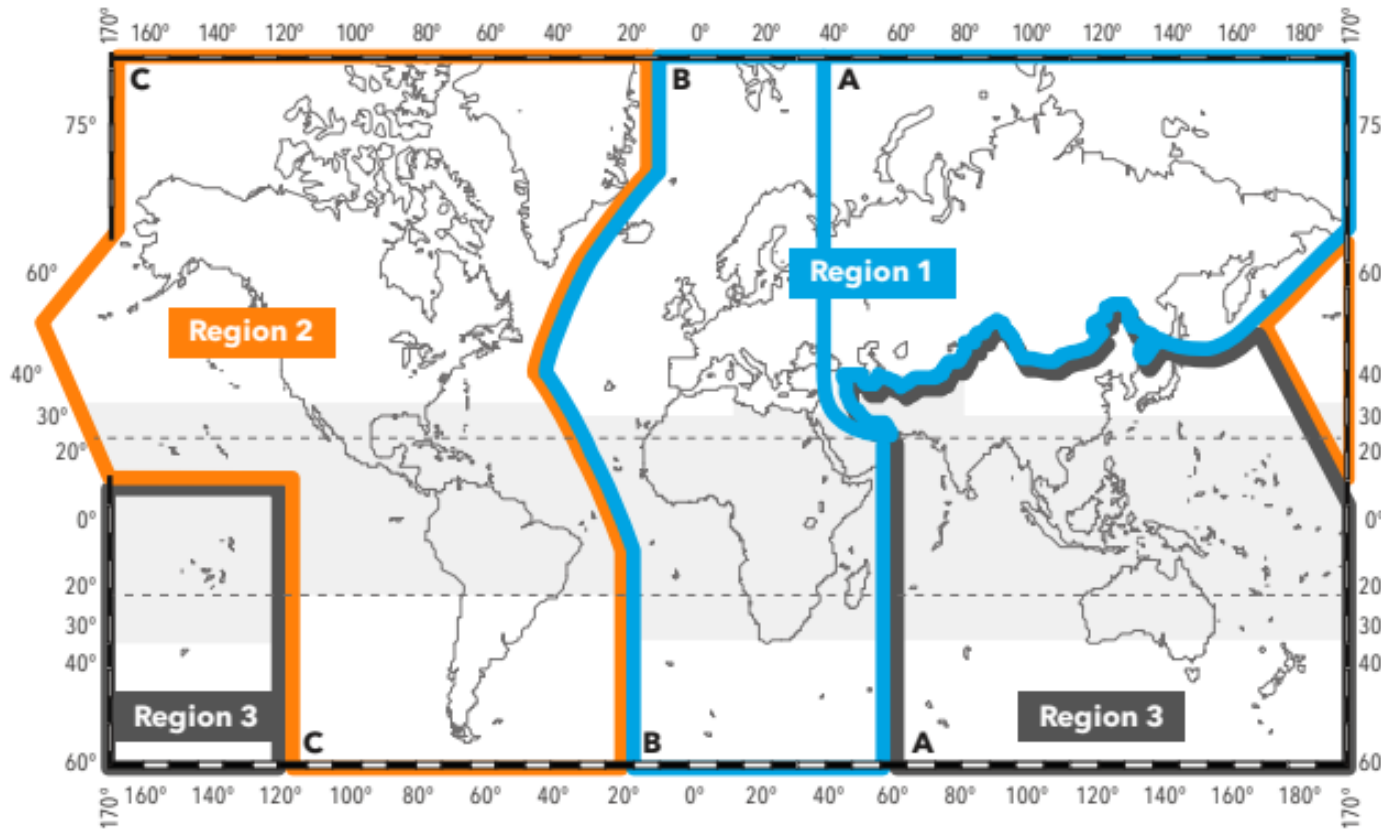
Radiocommunication Bureau, ITU

# World Radiocommunication Conferences (WRCs)

- **Updated 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**



# 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**



# WRC-19 in numbers







- 4 week discussions, 28 October - 22 November 2019 , Sharm El-Sheikh, Egypt
- 3 420 participants , 163 administrations, 129 other entities, including industry
- 38 agenda items and issues, 568 documents, 5811 proposals
- Spectrum and regulations for most radiocommunication services





# Some key outcomes of WRC-19

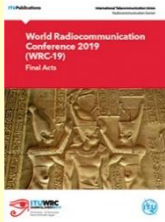


- Identification of **17.5 GHz** of **additional harmonized frequency bands** for **IMT** (incl. IMT-2020, 86% harmonized globally in 3 bands)
- Definition of a **stable regulatory framework for non-GSO systems** bases on a milestone-approach 
- Opening of **new orbital slots in the Broadcasting Satellite Service Plan** 
- Identification of **additional harmonized frequency bands for HAPS systems**, now **5.25 GHz** of spectrum is available for HAPS, ~46% harmonized globally in 4 bands
- Definition of **regulatory, operational and technical conditions for GSO ESIMs** 
- Expansion of a truly **GMDSS**, identification of spectrum for **NAVDAT, AMRD, VDES** 
- Approbation of new WRC Recommendations to encourage use of **globally or regionally harmonized frequency bands for evolving ITS** and continue the **development of spectrum harmonization of RTTS** 
- Global harmonization of part of the **amateur service spectrum**
- New measures limiting **unauthorized uplink ES transmissions**
- **Gender Declaration** 

▶ [see the additional slides](#)



# WRC-19 outcomes & follow-up



## WRC-19 Final Acts

[www.itu.int/pub/R-ACT-WRC.14-2019/en](http://www.itu.int/pub/R-ACT-WRC.14-2019/en)

ITU Council 2020 documents on WRC-19 and WRC-23  
(see Doc. [C20/27](#) & [C20/56](#) and [C20/55](#) & [C20/69](#) respectively)

See relevant BR Circular Letters at:

[www.itu.int/md/R00-CR-CIR/en](http://www.itu.int/md/R00-CR-CIR/en)

## Circulars

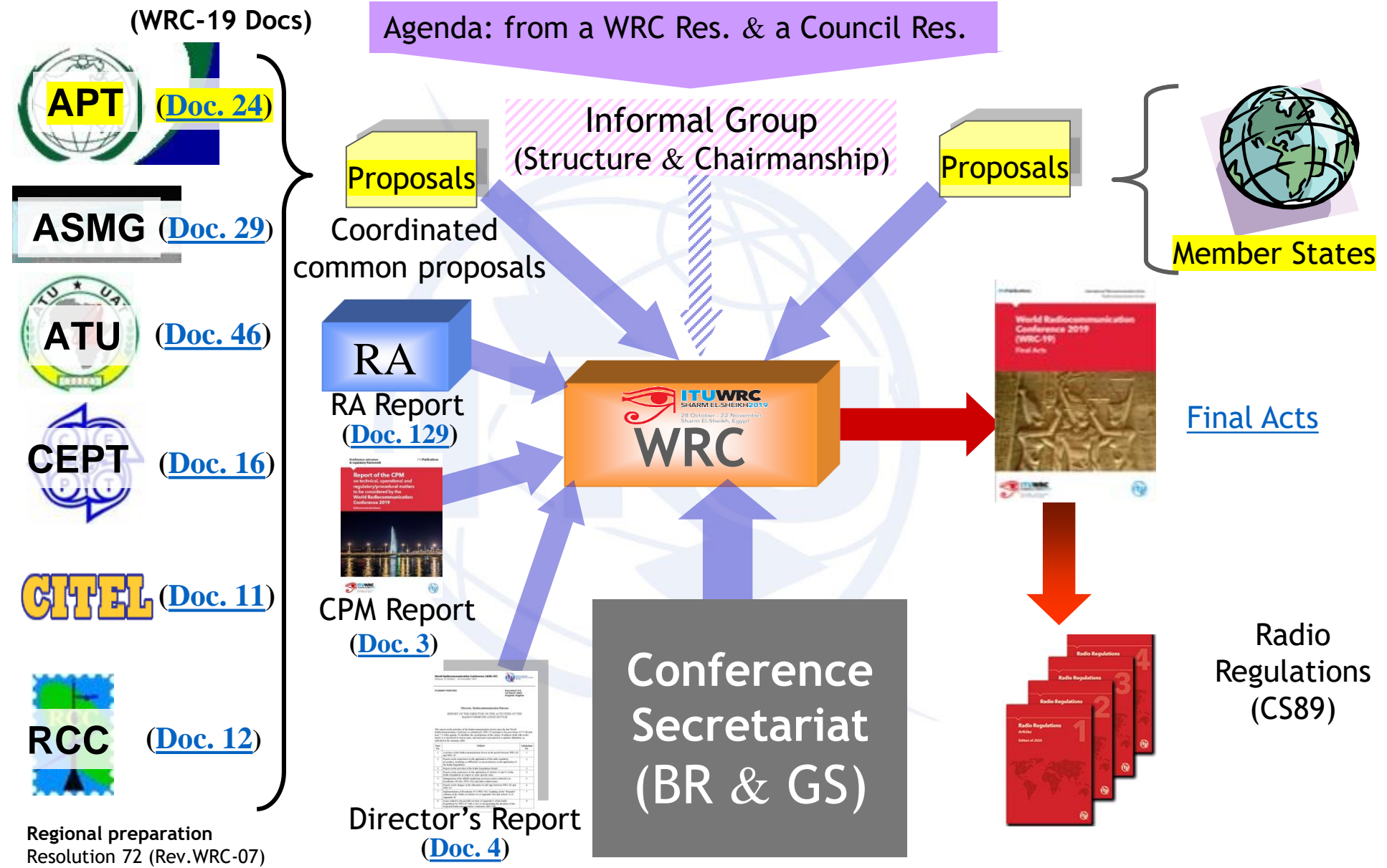
	Number	Title
<input type="checkbox"/>	<a href="#">[ 456 ]</a>	WRC-19 decisions included in the Minutes of Plenary meetings
<input type="checkbox"/>	<a href="#">[ 455 ]</a>	Implementation of Resolution 559 [COM5/3] (WRC-19)



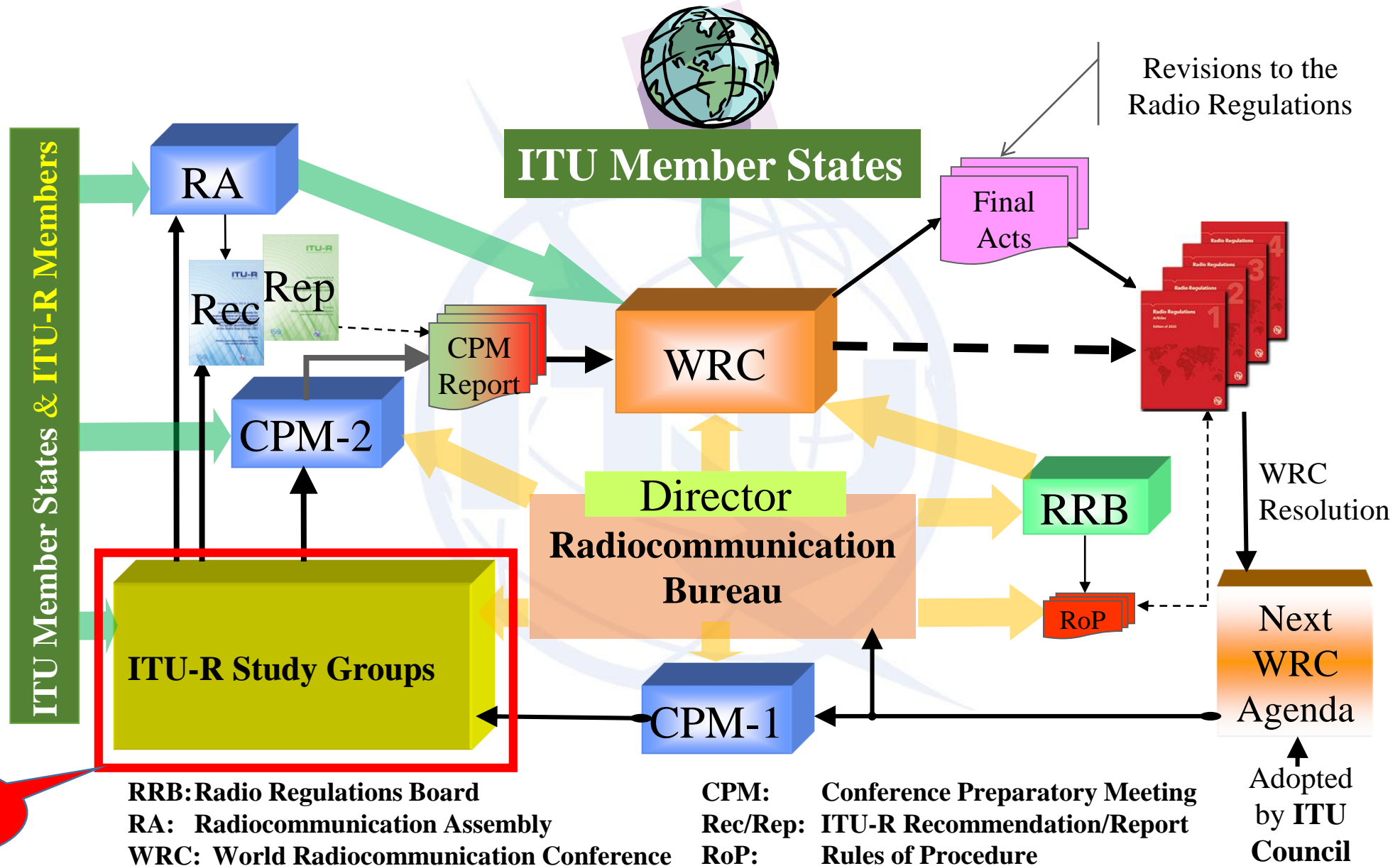
Radio Regulations – Edition of 2020  
available on the [MyITU](#) portal

▶ see the additional slides

# The WRC Process



# The WRC Cycle



We are here



# Topics on the WRC-23 Agenda



**1.1** **Mobile**  $3.3 \leq \text{MS \& IMT} \leq 10.5 \text{ GHz}$

**1.2**  $0.694 \leq \text{HIBS} \leq 2.7 \text{ GHz}$

**1.3**

**1.4** **Broadcasting**  $470 \leq \text{BS, MS} \leq 960 \text{ MHz}$

**1.5**

**Spaceborne radar sounders (2<sup>nd</sup>ary)**

**EESS (active) @ 45 MHz** **1.12**

**SRS @ 14.8-15.35 GHz** **1.13**

**Remote-sensing observation requirements - EESS (passive) @ 231.5-252 GHz** **1.14**

**1.6** **Sub-orbital vehicles**

**1.7** **Aviation** **New AMS(R)S VHF alloc.**

**1.8** **UAS CNPC links via FSS**

**1.9** **Dig. techno. for aviation safety-of-life applications (App.27)**

**1.10** **New AMS alloc. (around 15.5 & 22 GHz) for non-safety applications**

**1.11** **Maritime** **GMDSS modernization and e-navigation**

**A-ESIM & M-ESIM (GSO Ku-FSS)** **1.15**

**ESIM (NGSO Ka-FSS)** **1.16**

**ISS / Sat.-to-Sat. links** **1.17**

**NB MSS for IoT (L/S-bands)** **1.18**

**Ka-FSS (s-E) (R2)** **1.19**

**Satellite regulatory issues** **7**

*Note: The WRC-23 agenda item numbers are indicated in italic (agenda items 2, 3, 4, 5, 6, 8, 9 (9.1, 9.2, 9.3) and 10 are not mentioned here).*

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

**▶ see the additional slides**



# Main Steps towards WRC-23

**WRC-19:** WRC-23 Agenda - [Resolution 811 \(WRC-19\)](#)

**CPM23-1**

25-26 Nov. 2019; Results [@CA/251](#)

Meetings of ITU-R SGs, WPs / TG responsible/contributing on AIs

**CPM23-2**

[for final CPM Report to be available 5 months prior to WRC-23]

Final regional group meetings & national preparations  
**Member States' (common) proposals to WRC-23**

**RA-23; WRC-23**

**Council:** Res.1399 on WRC-23 agenda\*, Dates & venue still to be determined

\* see Annex 3 to ITU Letter [DM-20/1011](#) of 3 August 2020 & Doc. [C20/69](#)

National and regional preparations



# First Session of CPM-23

See [Resolution ITU-R 2-8](#) on Conference Preparatory Meeting (CPM)

- ✓ **Sharm el-Sheikh, EGY, 25-26 Nov. 2019** (330 participants, 73 MS, 11 SM, 11 contributions)  
⇒ results published in CA/251 of 19 Dec. 2019 ([www.itu.int/md/R00-CA-CIR-0251/en](http://www.itu.int/md/R00-CA-CIR-0251/en))
- Define framework of preparatory studies:  
**Structure of the draft CPM Report**  
(see the proposed detailed structure at: <https://www.itu.int/oth/R0A0A000014/en>) with  
**5 Chapters, one Annex and eight (co-)Rapporteurs**
- **Identify responsible ITU-R Groups** for each WRC-23 agenda item (AI) & topic  
⇒ 8 existing Working Parties and  
⇒ one **new TG 6/1 for AI 1.5** (see ToR in Annex 9 of [CA/251](#), [see also the additional slide](#))  
+ 4 existing SGs for the WRC-27 preliminary agenda items  
**and contributing ITU-R groups** (see Annexes 4, 7 and 8 to [CA/251](#))
- For the sharing and compatibility studies, service/application **characteristics & parameters** from contributing WPs are **required by 15 June 2021**  
**at the latest and unless otherwise specified** (e.g. 15 May 2021 in case of TG 6/1)



# CPM-23 Management Team

Organised in accordance with [Res. ITU-R 2-8](#) and composed of:

- ✓ CPM-23 Chairman, Vice-Chairmen and Chapter Rapporteurs (= Steering Committee)
- ✓ Chairmen of Study Groups and Responsible Groups

⇒ **Consolidate the draft CPM texts/chapters into the draft CPM Report to WRC-23 (as an input to CPM23-2)**

See also [CA/251 Add.1](#) on Preparation of the **draft CPM Report to WRC-23**

## Second Session of CPM-23

- **Based on the draft CPM Report**  
(available in six official ITU languages a minimum of 2 months before CPM23-2)
- **Consider contributions from ITU Member States & ITU-R Sector Members**
- **Consider also a preliminary draft version of the BR Director's Report to WRC-23**  
⇒ **Finalize the CPM Report to WRC-23 (incl. draft solutions (methods) to satisfy the agenda items)**



# Draft CPM Report – ToC

(see Annex 6 to [CA/251](#))

<u>Chapters of the draft CPM Report</u>	<u>WRC-23 Agenda items</u>
<b>1.</b> Fixed, Mobile and Broadcasting issues	<b>1.1, 1.2, 1.3, 1.4, 1.5</b>
<b>2.</b> Aeronautical and maritime issues	<b>1.6, 1.7, 1.8, 1.9, 1.10, 1.11</b>
<b>3.</b> Science issues	<b>1.12, 1.13, 1.14</b>
<b>4.</b> Satellite issues	<b>1.15, 1.16, 1.17, 1.18, 1.19, 7</b>
<b>5.</b> General issues	<b>2, 4, 9.1 topics a), b), c), d)</b>
<b>Annex 1</b>	<b>Information on WRC-23 agenda item 10 (WRC-27 preliminary agenda items)</b>



# Structure of the draft CPM texts for an agenda item in a given chapter

(see Annexes 6 and 11 to [CA/251](#))

<b>Chapter N</b>	
<b>Agenda Item 1.XY</b>	
[Relevant WRC Resolutions if any]	
<b>N/1.XY/1</b>	<b>Executive Summary*</b>
<b>N/1.XY/2</b>	<b>Background*</b>
<b>N/1.XY/3</b>	<b>Summary and Analysis of the results of ITU-R studies, including a list of relevant ITU-R Recommendations</b>
<b>N/1.XY/4</b>	<b>Method(s) to satisfy the Agenda Item</b>
<b>N/1.XY/5</b>	<b>Regulatory and procedural considerations</b>

\* Not more than half a page of text

<b>Chapter 5</b>
<b>Agenda Item 9.1(9.1-[x])</b>

<b>5/9.1-[x]</b> [label of the topic]
<b>Summary of the results of ITU-R studies</b>

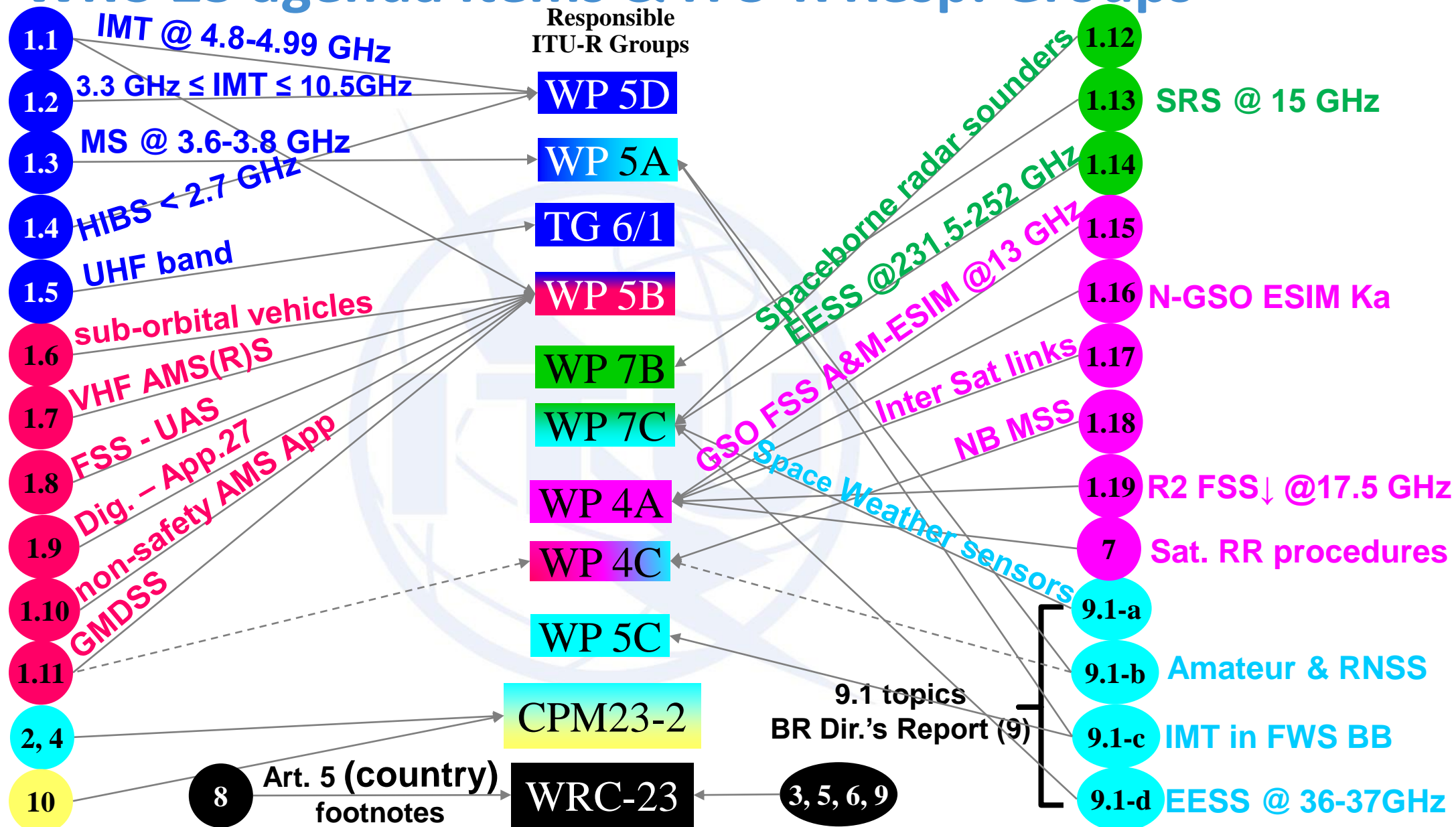
<b>Annex 1 – Information on WRC-23 AI 10</b>
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<b>2.[x]</b> [label of the agenda item]
[Text of a short summary of ITU-R studies completed under the preliminary agenda item]

(see the Proposed detailed Structure for the Draft CPM Report to WRC-23 at: [www.itu.int/oth/R0A0A000014/en](http://www.itu.int/oth/R0A0A000014/en))



# WRC-23 agenda items & ITU-R Resp. Groups



(see Annexes 4, 7 and 10 to [CA/251](#))

+Studies to be reported directly to the BR Director by:

- WP 5D on No. 21.5 limit

(see [CA/251](#) Annex 4)

- WP 5B on Res. 427 (WRC-19)

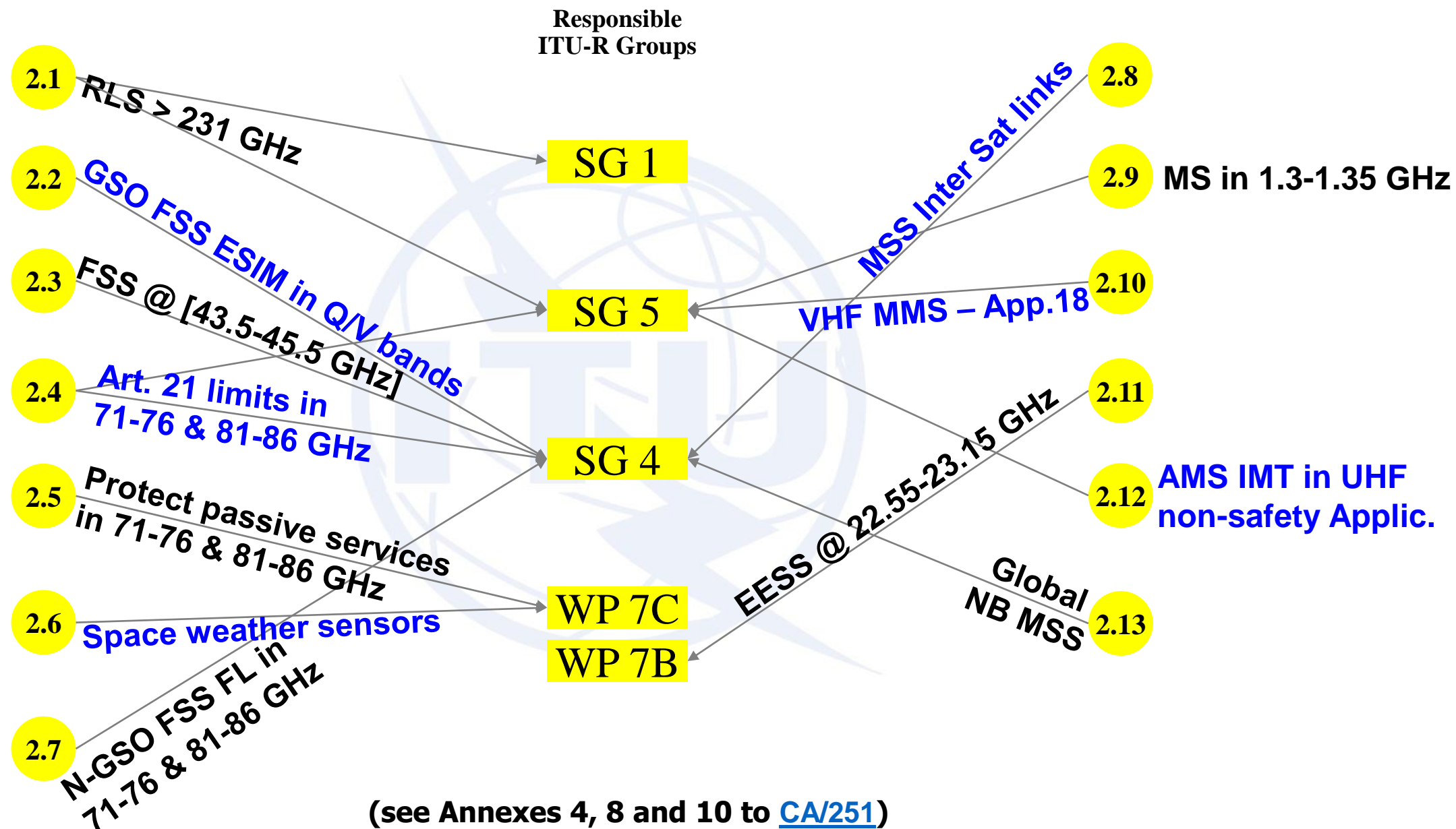
# Overlapping frequency bands between some WRC-23 agenda items

1.2 (IMT) WP 5D	1.16 (non-GSO FSS ESIMs) WP 4A	1.17 (ISL) WP 4A	1.18 (narrowband MSS) WP 4C
3 300-3 400 MHz (Regions 1 & 2)			3 300-3 400 MHz (Region 2)
	27.5-29.1 GHz (E-s) 29.5-30 GHz (E-s)	27.5-30 GHz (s-s)	
* E-s: Earth-to-space; s-s: space-to-space.			

- The responsible groups are invited to **exchange the necessary characteristics, parameters and protection criteria to complete studies addressing mutual compatibility and sharing feasibility** among the applicable services/applications.
- They should **coordinate their work and review**, as appropriate, the **progress of studies so that any potential difficulties can be addressed.**

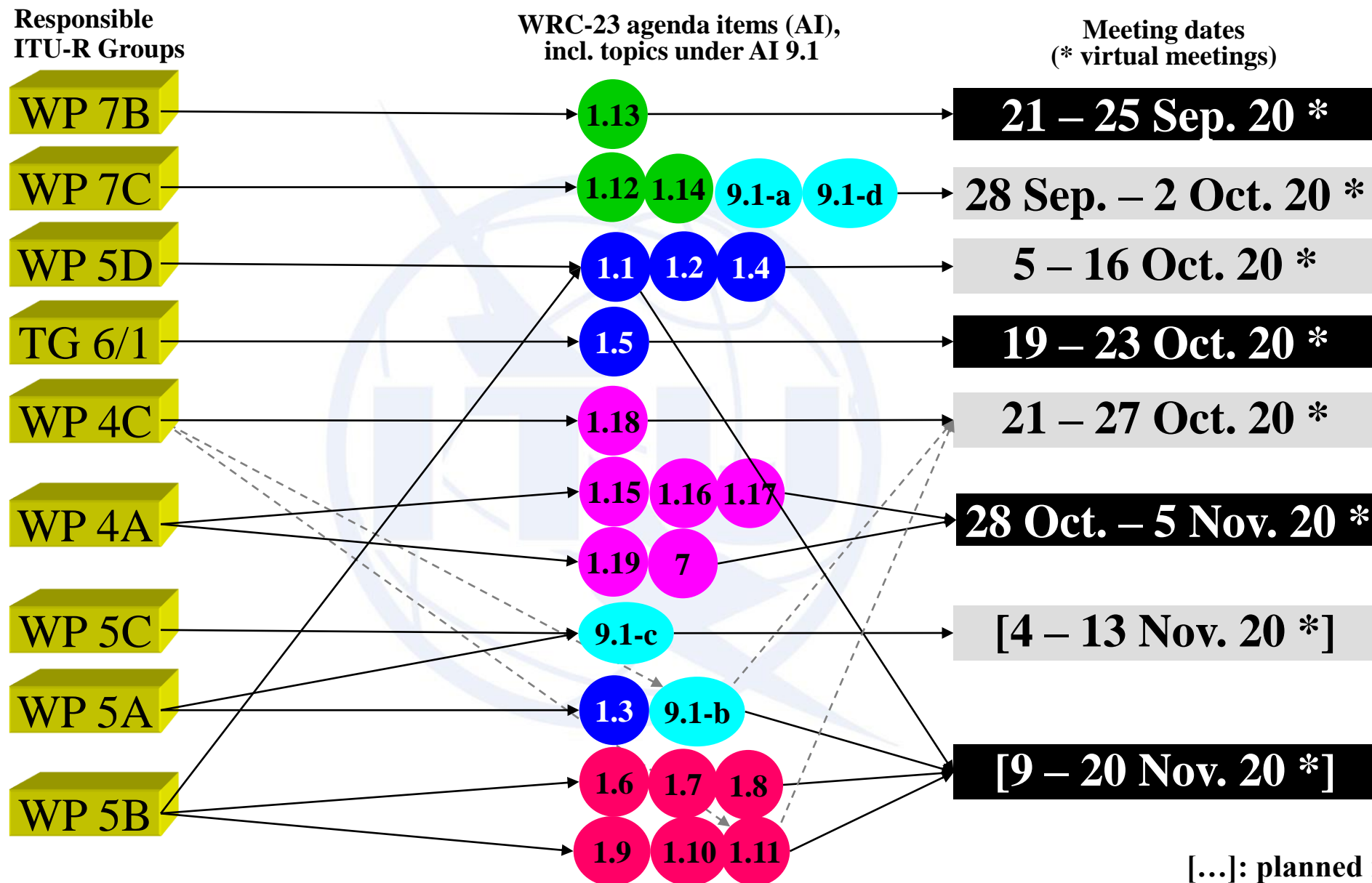


# WRC-27 preliminary items & ITU-R Resp. Groups





# Next Meetings of ITU-R Responsible Groups



[...]: planned meetings

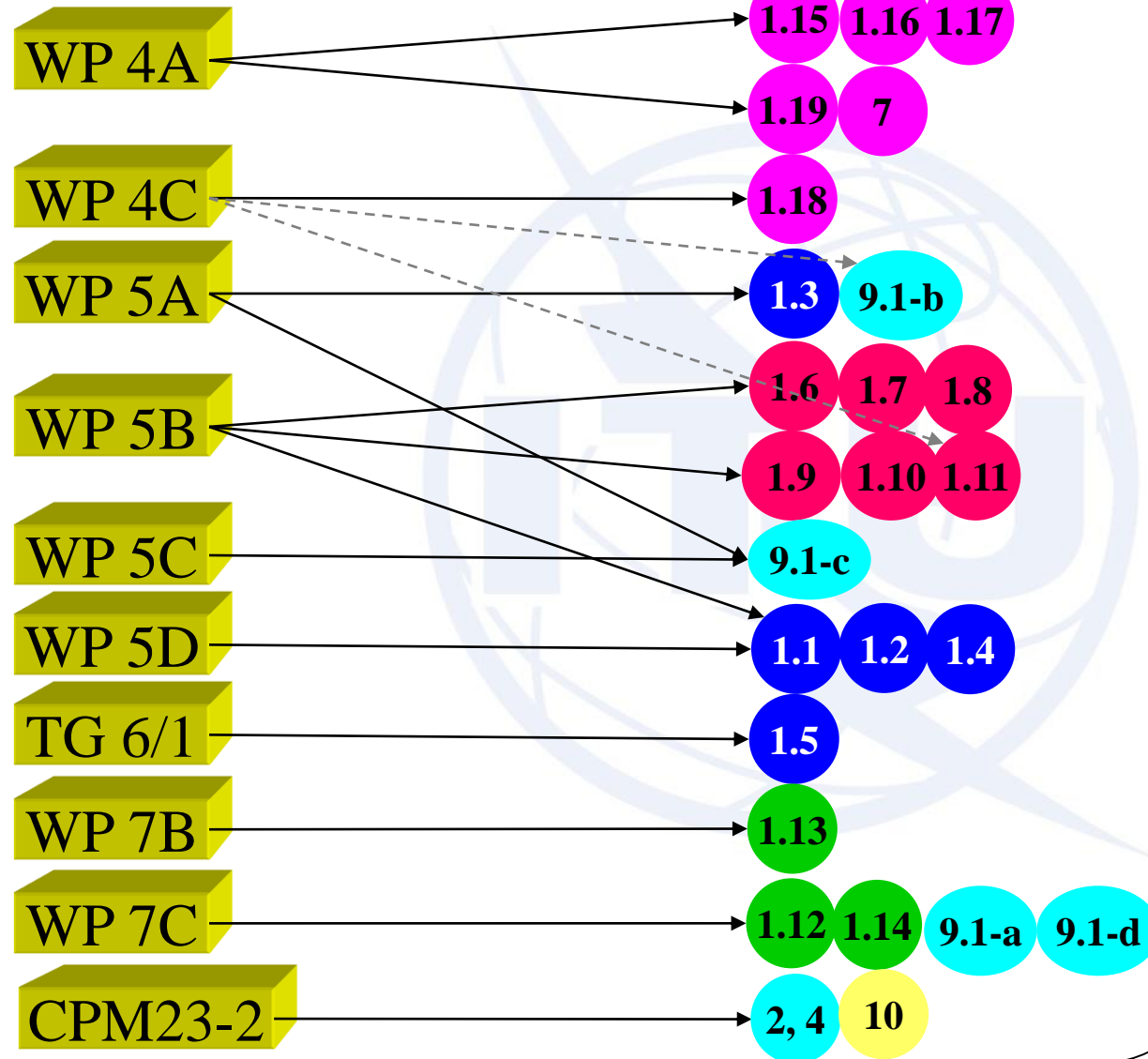
Up-to-date information and other ITU-R meetings online at: <http://www.itu.int/en/events/Pages/Calendar-Events.aspx?sector=ITU-R>



# Summary of CPM Report Preparation

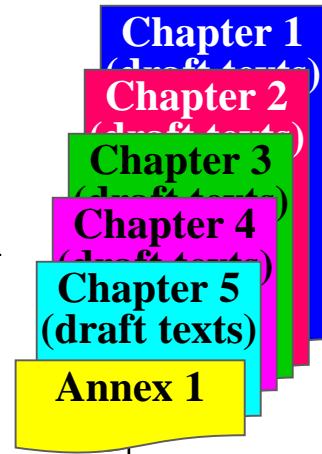
Responsible ITU-R Groups

WRC-23 agenda items (AI), incl. topics under AI 9.1



Dates/Deadlines

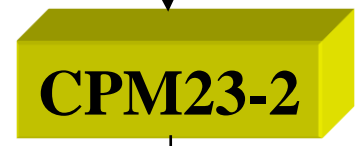
To CPM-23 Chapter Rapporteurs **prior to 21 October 2022\***



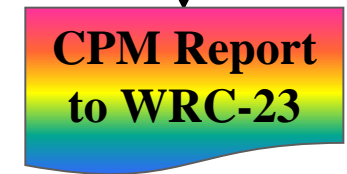
**[2-3 Nov. 2022]\***



2 months prior to CPM23-2



**[2<sup>nd</sup> quarter of 2023]\*\***



5 months prior to WRC-23

\* May be postponed based on CPM23-2 dates

\*\* To be confirmed based on WRC-23 dates 19



# ITU-R Preparatory Studies for WRC-23

[www.itu.int/go/rcpm-wrc-23-studies](http://www.itu.int/go/rcpm-wrc-23-studies)

- Webpage updated on a regular basis after meetings of the responsible groups

Resolution **811 (WRC-19)** contains the WRC-23 agenda.

WRC-23 agenda Item (Chapter)	Issue	WRC Resolution (*)	Responsible Group(s)	Information from Responsible Group(s) <sup>1</sup>
1		-	-	-
1.1 (1)		Res.223 (Rev.WRC-19)	WP 5B (1) WP 5D (1)	Doc. 5B/93 Sec. 2.3, 7 & 10.2.1.1 Doc. 5D/134 Chapter 4 Attachment 4.16 (b) & Doc. 5D/222, Chapter 2 Attachments 2.8 (a) (b) & 2.9 (a)(b), 2.11 (a) & 2.17 (a) & Chapter 4 Sections 4 & 5 & Attachments 4.8 & 4.9 (b)
1.2 (1)		Res.245 (WRC-19)	WP 5D	Doc. 5D/134, Chapter 4 Attachment 4.18 (b) & Doc. 5D/222, Chapter 2 Attachments 2.8 (a) (b) & 2.9 (a) (b), 2.11 (a) & 2.17 (a) & Chapter 4 Sections 4 & 5 & Attachments 4.8 & 4.9 (b)
1.3 (1)		Res.246 (WRC-19)	WP 5A	Doc. 5A/85 Sec.2, 3.6, 4 & 5 & Annexes 4 (c) & 5 (b)
1.4 (1)		Res.247 (WRC-19)	WP 5D	Doc. 5D/134, Chapter 4 Attachments 4.20 (b), 4.21 (c) & 4.22 & Doc. 5D/222, Chapter 2 Attachments 2.8 (a) (b) & 2.9 (a) (b), 2.11 (a) & 2.17 (a) & Chapter 4 Sections 4 & 5 & Attachments 4.8 & 4.9 (b)
1.5 (1)		Res.235 (WRC-15)	TG 6/1 (2)	See Administrative Circular CA/251
1.6 (2)		Res.772 (WRC-19)	WP 5B (3)	Doc. 5B/93 Sec. 2.1, 2.7, 7 & 10.2.1.2
1.7 (2)		Res.428 (WRC-19)	WP 5B (3)	Doc. 5B/93 Sec. 2.1, 2.7, 7, 10.2.1.3 & 10.2.2.1
1.8 (2)		Res.171 (WRC-19) - Res.155 (Rev.WRC-19)	WP 5B (3)	Doc. 5B/93 Sec. 2.1, 2.6, 2.7, 7, 10.5.1.1 & 10.5.2
1.9 (2)		Res.429 (WRC-19)	WP 5B	Doc. 5B/93 Sec. 2.7, 7 & 10.2.1.4
1.10 (2)		Res.430 (WRC-19)	WP 5B	Doc. 5B/93 Sec. 2.7, 7 & 10.2.1.5
1.11 (2)		Res.361 (Rev.WRC-19)	WP 5B (4)	Doc. 5B/93 Sec. 2.7, 7 & 10.3.1.1 & Annex 1 (b)
1.12 (3)		Res.656 (Rev.WRC-19)	WP 7C	Doc. 7C/22 Sec. 3.1.5
1.13 (3)		Res.661 (WRC-19)	WP 7B	Doc. 7B/14 Sec. 2.3 & Annexes 1, 2 & 3 (b)
1.14 (3)		Res.662 (WRC-19)	WP 7C	Doc. 7C/22 Sec. 3.3.7
1.15 (4)		Res.172 (WRC-19)	WP 4A	Doc. 4A/30 & Annexes 1 & 2 (b)
1.16 (4)		Res.173 (WRC-19)	WP 4A	Doc. 4A/30 & Annexes 1 & 2 (b)
1.17 (4)		Res.773 (WRC-19)	WP 4A	Doc. 4A/30 & Annexes 1 & 2 (b)
1.18 (4)		Res.248 (WRC-19)	WP 4C	Doc. 4C/30 & Annexes 1 & 2 (b)
1.19 (4)		Res.174 (WRC-19)	WP 4A	Doc. 4A/30 & Annexes 1 & 2 (b)





# Description of the texts\* assigned to the ITU-R Study Groups and sub-groups

(Working Methods in [Res. ITU-R 1-8](#))

- **Spectrum Management** (SG 1, see [Doc. 1/1](#))
- **Radiowave Propagation** (SG 3, see [Doc. 3/1](#))
- **Satellite Services** (SG 4, see [Doc. 4/1](#))
- **Terrestrial Services** (SG 5, see [Doc. 5/1](#))
- **Broadcasting Service** (SG 6, see [Doc. 6/1](#))
- **Science Services** (SG 7, see [Doc. 7/1](#))

\* ITU-R Questions,  
Recommendations,  
Reports, Handbooks,  
Resolutions,  
Opinions, Decisions  
and  
W(A)RC Resolutions and  
Recommendations

## ITU-R Collaboration with other sectors and organizations

- ITU-T ([Res. ITU-R 6-3](#)) and ITU-D ([Res. ITU-R 7-4](#))
- Other relevant organizations, incl. ISO, IEC & CISPR ([Res. ITU-R 9-6](#))

**Related elements from 27<sup>th</sup> RAG** (see [CA/252](#)) and **16<sup>th</sup> CVC** ([Doc. CVC-16/2](#))  
(CG#1 on Gender Declaration; Res. 1-8 & 15-6; Studies relating to WRC 23 AIs, etc.)

# Information on the regional preparation for WRC-23

➤ Resolution 72 (Rev. WRC-19)

[www.itu.int/go/wrc-23-regional](http://www.itu.int/go/wrc-23-regional)

## Asia-Pacific Telecommunity (APT)



- ▶ <http://www.aptsec.org/APTAPG>
- ▶ Chairman, APG-19:  
Dr. Kyu-Jin Wee (Rep. of Korea),  
[kjwee56@rapa.or.kr](mailto:kjwee56@rapa.or.kr); [kjwee56@hotmail.com](mailto:kjwee56@hotmail.com)

## Arab Spectrum Management Group (ASMG)



- ▶ Chairman, AMSG:  
Mr. Tariq AL AWADHI, UAE,  
[tariq.alawadhi@tra.gov.ae](mailto:tariq.alawadhi@tra.gov.ae)

## African Telecommunications Union (ATU)



- ▶ <http://www.atu-uat.org>
- ▶ Secretary General – African Telecommunications Union:  
Mr John OMO  
[sg@atu-uat.org](mailto:sg@atu-uat.org)

## European Conference of Postal and Telecommunications Administrations (CEPT)



- ▶ <http://www.cept.org/ecc/groups/ecc/cpg>
- ▶ Chairman, CPG:  
Mr. Alexandre Kholod, Switzerland,  
[alexandre.kholod@bakom.admin.ch](mailto:alexandre.kholod@bakom.admin.ch)

## Inter-American Telecommunication Commission (CITEL)



CITEL

- ▶ <http://www.citel.oas.org/en/Pages/PCCII>
- ▶ Chairman of the PCC.II Working Group for the Preparation of CITEL for Regional and World Radiocommunication Conferences:  
Mr. Victor Martinez, Mexico,  
[victor.martinezv@ift.org.mx](mailto:victor.martinezv@ift.org.mx)

## Regional Commonwealth in the Field of Communications (RCC)



- ▶ <http://www.en.rcc.org.ru>
- ▶ Chairman, RCC WG WRC-23/RA-23:  
Mr. Albert Nalbandian, Armenia,  
[abo441@mail.ru](mailto:abo441@mail.ru)



# ITU Inter-Regional Workshops on WRC-23 Preparation

## ➤ Resolution 72 (Rev. WRC-19)

**[1<sup>st</sup> IRW  
in Q4  
2021]**

- **To be scheduled halfway through the preparatory cycle**
  - ⇒ **Presentation and review of the on-going preparatory studies of the ITU-R responsible groups for CPM-23**
  - ⇒ **Presentation of the organization, preliminary views, draft priorities and positions of the regional groups**

**[2<sup>nd</sup> IRW  
in Q4  
2022]**

- **To be scheduled few months prior to CPM23-2**
  - ⇒ **Presentation of the draft CPM Report to WRC-23 (explanation of the draft Methods to satisfy WRC-23 agenda items)**
  - ⇒ **Presentation and review of the regional groups' draft views, positions and common proposals**

**[3<sup>rd</sup> IRW  
in Q3  
2023]**

- **To be scheduled few months prior to WRC-23**
  - ⇒ **Presentation of the CPM & Dir. Reports to WRC-23**
  - ⇒ **Presentation and review of the regional groups' draft views, positions and common proposals**

# Thank you for your attention

## Additional slides on

- **Access to and more information on WRC-19 outcomes**
- **Numbers for WRC-19 new Res. & new Art. 5 footnotes**
- **More information on the items and topics on the WRC-23 agenda and WRC-27 preliminary agenda**
- **Other information on CPM-23**
- **Radio services abbreviations**



# Access to WRC-19 outcomes

[www.itu.int/go/wrc-19](http://www.itu.int/go/wrc-19)



World Radiocommunication Conference 2019 (WRC-19), Sharm el-Sheikh, Egypt, 28 October to 22 November 2019



WRC-19 Final Acts

Minutes of the Plenary Meetings

WRC-19 Documents (Proposals, White, White Series, Blue, Pink)

Proposal (+ Doc.) Management System

Access to all other documents, incl. TD, Blue and Pink series

YOU ARE HERE HOME > ITU-R > CONFERENCES AND MEETINGS > WRC > WRC-19

SHARE



WRC-19 documents

Final Acts

Minutes of the Plenary Meetings

Contributions (C)

WRC-19 Proposal Management System - This tool provides an easy-to-use web access to the proposals for the work of the Conference

Temporary Documents (DT)

Information Documents (INFO) English only

Administrative Documents (ADM) English only

WRC-19 SharePoint

Other Documents and Electronic Resources

About WRCs

WRC-19 Homepage

Registration to RA-19 and WRC-19:

- Delegate registration
- Media accreditation

Host Country website

WRC-19 Documents and Proposals

Preparation of proposals for the work of WRC-19

Practical Information for Participants

- WRC Security Briefing
- Local Transportation

Quick Links

- Webcast
- Captioning
- WRC-19 SharePoint



WRC-19 News

Invitation Letters and Credentials

Contacts



How Mexico seeks to connect its rural citizens better: Arturo Robles (VIDEO) 05 February 2020

WRC-19: Enabling global radiocommunications for a better tomorrow 02 December 2019

WRC-19 identifies additional frequency bands for 5G 22 November 2019

WRC-19 identifies additional frequency bands for High Altitude Platform Station systems 22 November 2019

ITU Members agree to new milestones for non-geostationary satellite deployment 20 November 2019

Special ITU News Magazine WRC-19 Key Outcomes



# WRC-19 Proposal (+Doc.) Management System

[www.itu.int/net4/Proposals/WRC19/Main](http://www.itu.int/net4/Proposals/WRC19/Main)

[WRC-19](#)
i See Report of the CPM

Filtering ▼

May also be used to display CPM Report regulatory examples

Export content(s)
Export results

970 documents, 5811 proposals

Overall numbers of issued documents with proposals\* (\*incl. typically ADD/MOD/SUP/NOC on RR provisions)

English >	Agenda Item	Action	Source	Doc. Number	Proposal	Provision/Reference	Mapping	Destination	Received	Properties
	1.13	MOD	AHGPL4A	544	4	5.338A	Vol.1/Chp. II	COM7	11/21/2019	
	1.13	MOD	B61	556	1	5.338A	Vol.1/Chp. II	PLEN	11/21/2019	
	1.6	MOD	B60	555	1	5.338A	Vol.1/Chp. II	PLEN	11/21/2019	
	1.8	MOD	AHGPL4C	529 R1	1	1 610-1 660 MHz	Vol.1/Chp. II	PLEN	11/21/2019	
	1.8	ADD	AHGPL4C	529 R1	2	5.ADJBAND	Vol.1/Chp. II	PLEN	11/21/2019	
	1.8	ADD	AHGPL4C	529 R1	3	5.INBAND	Vol.1/Chp. II	PLEN	11/21/2019	
	1.8	MOD	B61	556	2	1 610-1 660 MHz	Vol.1/Chp. II	PLEN	11/21/2019	
	1.8	ADD	B61	556	3	5.ADJBAND	Vol.1/Chp. II	PLEN	11/21/2019	
	1.8	ADD	B61	556	4	5.INBAND	Vol.1/Chp. II	PLEN	11/21/2019	

# WRC-19 PMS filtering (ex. for AI 1.13)

[www.itu.int/net4/Proposals/WRC19/Main](http://www.itu.int/net4/Proposals/WRC19/Main)

WRC-19 See Report of the CPM

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Destination: Any Value

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2 documents, 22 proposals

English	Agenda Item	Action	Source	Doc. Number	Proposal	Provision/Reference	Mapping	Destination	Received	Properties
	1.13	MOD	B61	556	1	5.338A	Vol.1/Chp. II	PLEN	11/21/2019	
	1.13	MOD	B61	556	7	22-24.75 GHz	Vol.1/Chp. II	PLEN	11/21/2019	

# Additional spectrum for IMT

WRC-19 agenda item 1.13

- 
- A **total of 17.25 GHz** of additional spectrum was identified for IMT, in **5 bands**, out of which:
    - **14.75 GHz (86%)** are harmonized on a global basis, in bands:  
**24.25-27.5 GHz, 37-43.5 GHz and 66-71 GHz**
    - **2.5 GHz** are harmonized on a regional basis or for some countries, in bands:  
**45.5-47 GHz and 47.2-48.2 GHz**
  - For the IMT systems in **24.25-27.5 GHz**, **Res. 750 (Rev. WRC-19)** specified the **limits of unwanted emission power levels** to protect systems in the **Earth exploration-Satellite Service (passive)** in **23.6-24.0 GHz**, in a two-step approach:
    - Before 1 September 2027: **-33/-29 dBW/200 MHz** for base/mobile station
    - After 1 September 2027: **-39/-35 dBW/200 MHz** for base/mobile station
  - In band **66-71 GHz**, balanced approach between IMT and other WAS applications: ADMs may **implement IMT** or **consider coexistence** between IMT & these applications
  - NOC in other 6 bands which were under consideration:  
31.8-33.4 GHz, 47-47.2 GHz, 48.2-50.2 GHz, 50.4-52.6 GHz, 71-76 GHz, 81-86 GHz.
  - ▶ **WRC-19 new Res. 241, 242, 243 and 244** (ex. COM4/7, COM4/8, COM4/9 and COM4/10 resp.)



# Number of countries in Additional spectrum for IMT

WRC-19 agenda item 1.13



Bands identified for IMT GHz (BW)	Region 1 (adm)	Region 2 (adm)	Region 3 (adm)	NOC GHz
24.25-27.5 (3.25)	All	All	All	31.8-33.4
37-43.5 (6.5)	All	All	All	47-47.2
45.5-47 (1.5)	50	1	2	48.2-50.2
47.2-48.2 (1.0)	64	All	7	50.4-52.6
66-71 (5.0)	All	All	All	71-76
				81-86

(adm: number of countries)



# Harmonization of IMT bands

## below 5 GHz at WRC-15 and at WRC-19

WRC-19 agenda item 8



Freq_fm (MHz)	Freq_to (MHz)	BW (MHz)	At WRC-19				At WRC-15			
			adm XR1	adm XR2	adm XR3	adm XAA	adm XR1	adm XR2	adm XR3	adm XAA
614	694	80	0	8	7	15	0	7	7	14
694	698	4	121	8	7	136	121	7	7	135
698	790	92	121	35	27	183	121	35	26	182
3300	3400	100	33	13	7	53	33	6	6	45
3400	3500	100	121	35	16	172	121	35	11	167
3500	3600	100	121	35	13	169	121	35	10	166
3600	3700	100	0	7	0	7	0	4	0	4
4800	4900	100	33	4	6	43	0	1	3	4
4900	4990	90	33	1	6	40	0	0	3	3

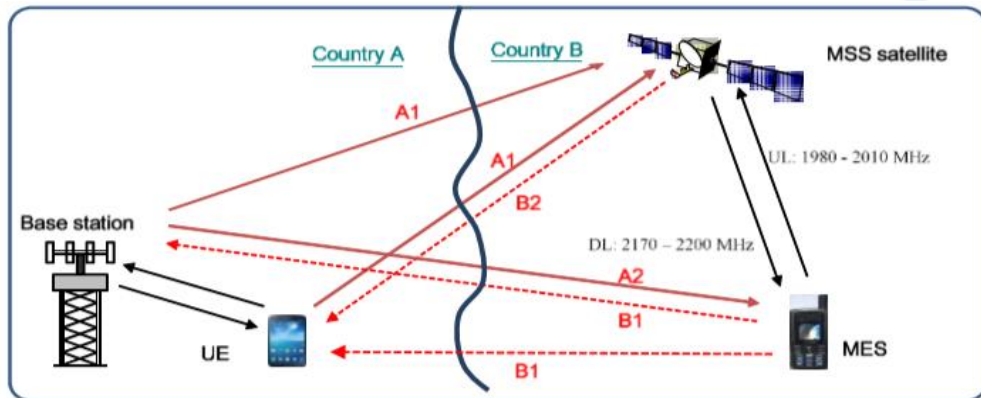
(adm: number of countries in Reg. 1, 2, 3 (XR1, XR2, XR3 resp.) and in total (XAA))



# Sharing of terrestrial IMT with satellite component and BSS

WRC-19 agenda item 9.1, issues 9.1.1 and 9.1.2

Issue 9.1.1

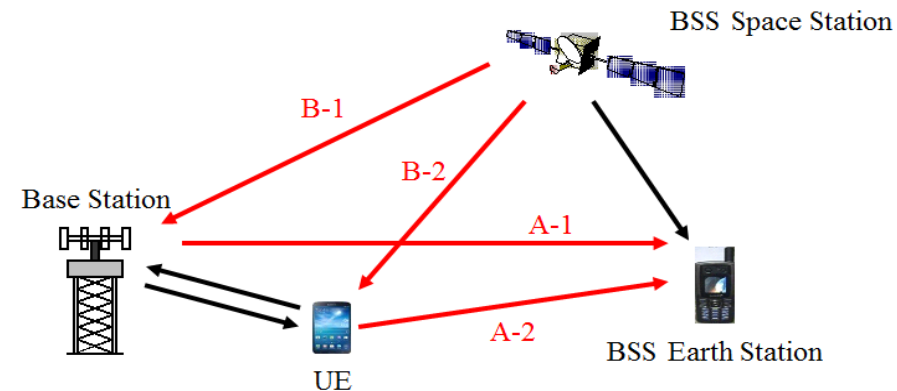


- ▶ **New technical and operational conditions** for operation of IMT terrestrial & satellite components in **1 980-2 010 MHz** and **2 170-2 200 MHz**. Include an **e.i.r.p. limit** for terrestrial stations and **pfd limit** for space transmitters
- ▶ **Res. 212 (Rev. WRC-19)**

- ▶ **New technical conditions & coordination guidelines** for sharing between IMT and BSS (sound) in **1 452-1 492 MHz**, with **pfd limits** on BSS satellite and IMT stations

- ▶ **Res. 761 (Rev. WRC-19)**

Issue 9.1.2



# Wireless Access System (WAS/RLANS)

WRC-19 agenda items 1.16 and 9.1 (issue 9.1.5)

- Change of regulatory conditions for **WAS/RLANS in the band 5 150-5 250 MHz**
  - Allowing the use of **Wi-Fi devices in trains and cars**, which was very much sought by the automotive and railway industries
    - **Indoor usage**, including inside trains, with **maximum mean e.i.r.p. of 200 mW**, and
    - usage **inside automobiles** with **maximum e.i.r.p. of 40 mW**
  - Permits also a **limited deployment of outdoor WAS/RLANS**, with due protection of space services
    - **Controlled/limited outdoor usage** with a maximum mean e.i.r.p. of 200 mW
    - Up to 1 W could be allowed, with e.i.r.p. mask for protection of space receivers
    - The number of higher power outdoor RLANS shall not exceed 2% of total ▶ **Res. 229 (Rev. WRC-19)**
- **No changes for other 4 bands** under consideration **due to sharing constraints:**  
**5 250-5 350 MHz; 5 350-5 470 MHz; 5 725-5 850 MHz, 5 850-5 925 MHz**
- For the **bands 5 250-5 350 MHz & 5 470-5 725 MHz**, clarifications in respective RR No. **5.447F** by which **RLS, EESS (active) and SRS (active)**, and in RR **5.450A** by which **RDS**, shall not impose more stringent conditions upon the MS than those in **Res. 229 (Rev. WRC-19)**



# High Altitude Platforms (HAPS)

WRC-19 agenda item 1.14

- A **total of 5.25 GHz** of spectrum in **5 bands** are identified for HAPS, out of which:
  - **2.4 GHz** are now harmonized on a global basis, in bands:  
**31-31.3 GHz**, **38-39.5 GHz** (at WRC-19), **47.2-47.5 GHz\*/47.9-48.2 GHz\***
  - **2.85 GHz** are now harmonized for Region 2, in bands: \* With modified operational conditions  
**21.4-22 GHz** and **24.25-27.5 GHz** (both at WRC-19)
- **NOC for 6 GHz** (still 5 countries using the bands 6 440-6 520 MHz / 6 560-6 640 MHz)
- **1 country** added to the many others using the band **27.9-28.2 GHz**
- **Conditions were imposed on HAPS to protect the existing services** (RR footnotes, Res.):  
**limitations on link direction** (uplink/downlink), **category of service** (primary/secondary) and various **technical restrictions** (RR Art. 11, App. 4 and App. 7 have been modified accordingly)
- WRC-19 decisions will
  - **facilitate the development and implementation of HAPS**
  - **enable affordable broadband connectivity and telecommunication services in underserved communities and in rural and remote areas** (incl. mountainous and desert zones), noting that HAPS can also be used for **disaster recovery communications**

# High Altitude Platforms (HAPS) (Cont'd)

WRC-19 agenda item 1.14

	<b>21.4-22 GHz</b>	<b>24.25-27.5 GHz</b>	<b>27.9-28.2 GHz</b>	<b>31.0-31.3 GHz</b>	<b>38-39.5 GHz</b>	<b>47.2-47.5 GHz and 47.9-48.2 GHz</b>
	Resolution <b>165</b> (WRC-19)	Resolution <b>166</b> (WRC-19)	Resolution <b>145</b> (Rev.WRC-19)	Resolution <b>167</b> (WRC-19)	Resolution <b>168</b> (WRC-19)	Resolution <b>122</b> (Rev.WRC-19)
Region 1				↓:↑	↓:↑	↓:↑
Region 2	↓	24.25-25.25 GHz ↓ 25.25-27.0 GHz ↑ 27.0-27.5 GHz ↓		↓:↑	↓:↑	↓:↑
Region 3				↓:↑	↓:↑	↓:↑
Countries			↓			

HAPS-to-ground: ↓  
ground-to HAPS: ↑

▶ **Res. 122** (Rev.WRC-19), **Res. 145** (Rev.WRC-19) and

▶ **WRC-19 new Res. 165, 166, 167 and 168** (ex. COM4/3, COM4/4, COM4/5 and COM4/6 resp.)

# Transport communications

## FS & MS applications in 275-450 GHz

WRC-19 agenda items 1.11, 1.12 and 1.15

### 1.11 Railway radiocommunications between train and trackside (**RSTT**)



▶ **WRC-19 new Resolution 240** (ex. COM4/2) inviting the **ITU-R** to **continue** the **development of spectrum harmonization** of RSTT in existing mobile service allocations via ITU-R Recommendations and Reports

### 1.12 Spectrum harmonization for Intelligent Transport Systems (**ITS**)



▶ **WRC-19 new Recommendation 208** (ex. COM4/1) encouraging the **use of globally or regionally harmonized frequency bands for evolving ITS**

Will contribute to connection of vehicles, improvement of traffic management and safe driving

1.15 **Identification of bands 275-296 GHz, 306-313 GHz, 318-333 GHz & 356-450 GHz for land mobile and fixed services applications.** Other bands within 275-450 GHz may only be used subject to **specific conditions to protect EESS (passive).** **Protection of radio astronomy** ensured by specific conditions (e.g. minimum separation distances and/or avoidance angles) in **Res. 731** (rev.WRC-19)

Enabling future  
high data rate  
wireless systems  
(>100 Gbit/s)



# Amateur, Maritime and Aeronautical issues

WRC-19 agenda items 1.1, 1.8, 1.9.1, 1.9.2, 1.10 and 9.1 (issue 9.1.4)



- 1.1 Allocated **50-52 MHz** band in **Reg. 1** to **amateur service** on a **secondary basis**  
▶ completed partial **spectrum harmonization** throughout the 3 Regions

GMDSS



- 1.8 a) Authorized usage of **NAVDAT\*** in bands **415-495 kHz** and **505-526.5 kHz** and **6 HF channels** in RR App. 17 for **NAVDAT** in maritime mobile service  
\* Navigational data  
b) Allocation to **maritime MSS** was **upgraded (1621.35-1626.5 MHz)** to **expand the provision of a truly global maritime distress and safety system**



- 1.9.1 **Limitation** of Autonomous Maritime Radio Devices (**AMRD**) frequencies to **specific channels**  
▶ Operation of two groups\* of AMRDs is regulated, thus **enhancing safety at sea**  
\* *Group A*: those enhancing safety of navigation; *Group B*: others



- 1.9.2 ▶ Secondary allocations to **NGSO MMSS** (↓&↑links) enabling **VDES sat. component** and the **implementation of complete VHF Data Exchange System concept**



- 1.10 **No RR changes** for **GADSS**. WRC-23 will review outdated aeronautical RR provisions.  
▶ **New WRC-19 Res. 427 (ex.COM4/1)**  
9.1.4 **No RR change** for **sub-orbital vehicles**. Studies continue for WRC-23 agenda item 1.6

# Non-GSO satellites systems

WRC-19 agenda items 1.6 and 7 (issue A)

## 1.6 Clarifications of the regulatory framework for non-GSO satellite systems in bands between 37.5 GHz and 51.4 GHz

▶ WRC-19 new Res. 769, 770 & 771 (ex. COM5/10, COM5/11 & COM5/12 resp.)

## 7(A) New regulatory framework, including the bringing into use and a milestone-based approach for the deployment of non-GSO satellite constellations in specific frequency bands and services



- non-GSO systems will have to **deploy 10% of their constellation within 2 years** after the end of the current regulatory period for bringing into use, **50% within 5 years**, and **complete the deployment within 7 years**.

This approach will help ensure that the MIFR is aligned with the actual deployment of non-GSO satellite systems and

- will **enable mega constellations of satellites** (hundreds to thousands of spacecraft) to rapidly come to fruition, ensuring operation of as many systems as possible
- will ensure more affordable means of connectivity to rural and remote areas, providing innovative solutions to **bridging the digital divide** as well as providing **broadband for all**

▶ WRC-19 new Res. 35 (ex. COM5/7)

# BSS & FSS Plans and ESIM

WRC-19 agenda items 1.4, 1.5 and 7 (issue E)

**1.4 New GSO orbital slots opened up in the Reg. 1&3 BSS Plan with a “special procedure” including temporary regulatory measures (as of 23 March and until 21 May 2020) and which can only be applied once, in order to provide priority to countries that:**

- **have no assignments in the List or submitted under Article 4 of RR Appendix 30;**
- **have assignments in the Plan with degraded reference situation.** ▶ **WRC-19 new Res. 558, 559 & 768** (ex. COM5/2, COM5/3 & COM5/4 resp.)

**7(E) New “Special Procedure”, applicable only once, to facilitate entry into the Appendix 30B FSS List, for countries that have no assignments in the List or submitted under App. 30B Art. 6.**

▶ **WRC-19 new Res. 170** (ex. COM5/8)

▶ **Ensure equitable access to the spectrum & orbit resources by providing protection of assignments and a priority mechanism for countries to regain access to these resources**

**1.5 New regulatory, operational and technical conditions under which the frequency bands 17.7-19.7 GHz & 27.5-29.5 GHz can be used by ESIM\* communicating with GSO FSS**

- ▶ **For the use & further development of ESIMs, enabling connection of people on ships, aircraft and land vehicles and ensuring their safety, security and comfort while in motion**

\* Earth Station In Motion

▶ **WRC-19 new Res. 169** (ex. COM5/6)

# Other satellite issues

WRC-19 agenda items 1.2, 1.7, 7 (issue I) and 9.1 (issues 9.1.7 & 9.1.9)

## 1.2 Establishment of **maximum e.i.r.p. for any emissions of**

- **MSS earth stations** in the band **399.9-400.05 MHz** (with some restrictions of application until 22 Nov. 2022), **except for** telecommand uplinks within the MSS in the band **400.02-400.05 MHz**
- **MetSat & EESS earth stations** in the band **401-403 MHz** (with some restrictions of application until 22 November 2029)

7(I) New **WRC-19 Res. 32 (ex.COM5/5)** on **Regulatory procedures for frequency assignments to non-GSO satellite** networks or systems identified as **short-duration mission** not subject to the application of Section II of Article 9

1.7 New **WRC-19 Res. 660 (ex.COM5/9)** on the **Use of the frequency band 137-138 MHz by non-GSO satellites with short-duration missions in the space operation service**

9.1.7 New **WRC-19 Res. 22 (ex.COM5/1)** on Measures to limit **unauthorized uplink transmissions from earth stations**

9.1.9 Allocate the band **51.4-52.4 GHz** to the **FSS (Earth-to-space)** limited to

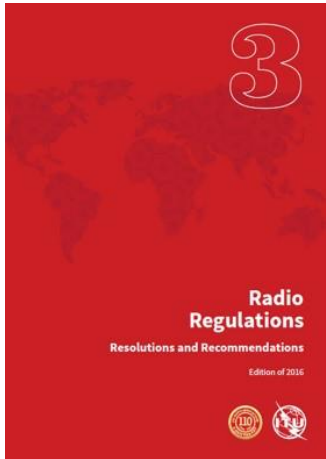
- **gateway earth stations larger than 2.4 meters and**
- **communicating with GSO satellites.**

► **One GHz extension of the current allocation in the 50.4-51.4 GHz band**



# 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-19 new Resolutions and Recommendations

WRC-19 No.	Res. No.	WRC-19 No.	Res. No.	WRC-19 No.	Res. No.
COM4/1	427	COM5/9	660	COM6/15	248
COM4/2	240	COM5/10	769	COM6/16	174
COM4/3	165	COM5/11	770	COM6/17	774
COM4/4	166	COM5/12	771	COM6/18	175
COM4/5	167			COM6/19	812
COM4/6	168	COM6/1	811	COM6/20	663
COM4/7	241	COM6/2	245	COM6/21	176
COM4/8	242	COM6/3	246	COM6/22	177
COM4/9	243	COM6/4	247	COM6/23	775
COM4/10	244	COM6/5	772	COM6/24	776
		COM6/6	428	COM6/25	178
COM5/1	22	COM6/7	171	COM6/26	249
COM5/2	558	COM6/8	429	COM6/27	250
COM5/3	559	COM6/9	430	COM6/28	363
COM5/4	768	COM6/10	661	COM6/29	664
COM5/5	32	COM6/11	662	COM6/30	251
COM5/6	169	COM6/12	172		
COM5/7	35	COM6/13	173	<b>WRC-19 No.</b>	<b>Rec. No.</b>
COM5/8	170	COM6/14	773	COM4/1	208

# WRC-19 new RR Article 5 footnotes

WRC-19 No.	Final Acts No.
5.A18	5.82C
5.A11	5.166B
5.B11	5.166C
5.E11	5.166E
5.C11	5.166D
5.D11	5.166A
5.169bis	5.169A
5.A11bis	5.169B
5.A17	5.203C
5.AA17	5.209A
5BB17	5.218A
5.A192	5.228AB
5.B192	5.228AC
5.A12	5.260A
5.B12	5.260B
5.C12	5.264A
5.D12	5.264B
5.ADJBAND	5.373
5.INBAND	5.373A


WRC-19 No.	Final Acts No.
5.A116	5.446D
5.A15	5.517A
5.B114	5.530E
5.C114	5.532AA
5.A113	5.532AB
5.D114	5.534A
5.F114	5.543B
5.G114	5.550D
5.A16	5.550C
5.B16	5.550E
5.BCD113	5.550B
5.F113	5.553A
5.H113	5.553B
5.A919	5.555C
5.J113	5.559AA
5.X115	5.564A


# WRC-23 Agenda items on Fixed, Mobile & Broadcasting issues

WRC-23 agenda items 1.1 to 1.5



- 1.1 ➤ In the band **4 800-4 990 MHz** (identified for IMT in about 40 countries), consider the pfd criteria in No. **5.441B** for the **protection of stations of the aeronautical and maritime mobile services** located in international airspace and waters from **other stations located within national territories** ➤ [Res. 223 \(Rev.WRC-19\)](#)
- 1.2 ➤ Consider the **identification for IMT** of the following frequency bands:  
**3 300-3 400 MHz** (sub-Reg.1 & Reg.2), **3 600-3 800 MHz** (Reg.2), **6 425-7 025 MHz** (Reg.1), **7 025-7 125 MHz** (globally) and **10.0-10.5 GHz** (Reg.2) ➤ [Res. 245 \(WRC-19\)](#)
- 1.3 ➤ Consider a **primary allocation** of the band **3 600-3 800 MHz** to the **mobile service** within **Region 1** ➤ [Res. 246 \(WRC-19\)](#)
- 1.4 ➤ Consider use of **high-altitude platform stations as IMT base stations (HIBS)** in the **mobile service** in certain frequency bands **below 2.7 GHz\*** **already identified for IMT**, on a global or regional level ➤ [Res. 247 \(WRC-19\)](#)

 studies of bands **694-960 MHz**, **1 710-1 885 MHz** (1 710-1 815 MHz for ↑ only in Reg. 3), **2 500-2 690 MHz** (2 500-2 535 MHz for ↑ only in Reg. 3, except 2 655-2 690 MHz in Reg. 3)
- 1.5 ➤ Review the **spectrum use** and **spectrum needs** of **existing services** in **470-960 MHz** in **Region 1** and consider **regulatory actions** in **470-694 MHz** in **Region 1** ➤ [Res. 235 \(WRC-15\)](#)



# WRC-23 Agenda items on Aeronautical & Maritime issues

WRC-23 agenda items 1.6 to 1.11

- 1.6 ➤ Consider regulatory provisions to facilitate **radiocommunications for sub-orbital vehicles** ➤ [Res. 772 \(WRC-19\)](#)
- 1.7 ➤ Consider **AMS(R)S allocation** for both the E-s & s-E directions of **aeronautical VHF communications in all or part of the frequency band 117.975-137 MHz** ➤ [Res. 428 \(WRC-19\)](#)
- 1.8 ➤ Review and, if necessary, revise **Res. 155 (Rev.WRC-19) & No. 5.484B** to accommodate the **use of FSS networks by control and non-payload communications of unmanned aircraft systems** ➤ [Res. 171 \(WRC-19\)](#)
- 1.9 ➤ Review Appendix **27**, to accommodate **digital technologies for commercial aviation safety-of-life applications** in **existing HF bands** allocated to the **AM(R)S** and ensure coexistence of current and modernized HF systems ➤ [Res. 429 \(WRC-19\)](#)
- 1.10 ➤ Consider **spectrum needs**, for possible **new AMS allocations** for **non-safety aeronautical mobile applications** ➤ [Res. 430 \(WRC-19\)](#)
- 1.11 ➤ Consider possible **regulatory actions** to support the **modernization of the GMDSS** and **implementation of e navigation** ➤ [Res. 361 \(Rev.WRC-19\)](#)

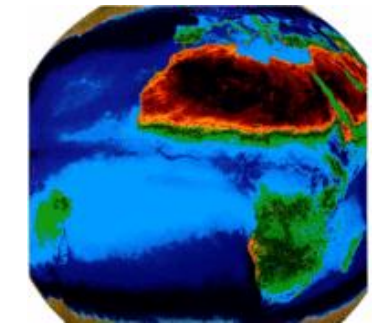




# WRC-23 Agenda items on Science issues

WRC-23 agenda items 1.12 to 1.14

- 1.12 ➤ Consider new **secondary allocation** to the **EESS (active) service** for **spaceborne radar sounders** within the range of frequencies **around 45 MHz** ▶ [Res. 656 \(Rev.WRC-19\)](#)



- 1.13 ➤ Consider to **upgrade of the allocation** of the frequency band **14.8-15.35 GHz** to the **space research service** ▶ [Res. 661 \(WRC-19\)](#)

- 1.14 ➤ Consider possible adjustments of the existing or possible new primary **frequency allocations to EESS (passive)** in the frequency range **231.5-252 GHz**, to ensure alignment with more up-to-date **remote-sensing observation requirements** ▶ [Res. 662 \(WRC-19\)](#)



# WRC-23 Agenda Items on Satellite issues

WRC-23 agenda items 1.15 to 1.19

- 1.15 ➤ Consider the use of the band **12.75-13.25 GHz** (E-s) by **earth stations on aircraft and vessels** communicating with **GSO** space stations in the **FSS globally** ➤ [Res. 172 \(Rev.WRC-19\)](#)
- 1.16 ➤ Consider the use of the bands **17.7-18.6 GHz** and **18.8-19.3 GHz** and **19.7-20.2 GHz** (s-E) and **27.5-29.1 GHz** and **29.5-30 GHz** (E-s) by **non-GSO FSS** earth stations in motion (ESIM) ➤ [Res. 173 \(WRC-19\)](#)
- 1.17 ➤ Consider **inter-satellite links** in specific frequency bands\*, or portions thereof, by adding an inter-satellite service allocation where appropriate ➤ [Res. 773 \(WRC-19\)](#)  
\* (ISS/s-s) **11.7-12.7 GHz**, **18.1-18.6 GHz**, **18.8-20.2 GHz** and **27.5-30 GHz**
- 1.18 ➤ Consider **spectrum needs** and potential **new MSS allocations\*** for future development of **narrowband MSS systems** ➤ [Res. 248 \(WRC-19\)](#)  
\* in the bands **1 695-1 710 MHz** (R2), **2 010-2 025 MHz** (R1), **3 300-3 315 MHz** and **3 385-3 400 MHz** (R2)
- 1.19 ➤ Consider new **primary allocation** to the FSS (s-E) direction in the frequency band **17.3-17.7 GHz in Region 2** ➤ [Res. 174 \(WRC-19\)](#)



# Other topics on the WRC-23 Agenda

WRC-23 agenda item 9.1

- a) Consider technical and operational characteristics, spectrum requirements and appropriate radio service designations for **space weather sensors** with a view to describing **appropriate recognition and protection in the Radio Regulations** without placing additional constraints on incumbent services ▶ [Res. 657 \(Rev.WRC-19\)](#)
- b) Consider **amateur service & the amateur-satellite service** allocations in the frequency band **1 240 1 300 MHz** to determine if **additional measures** are required to **ensure protection of the RNSS (s-E)** operating in the same band ▶ [Res. 774 \(WRC-19\)](#)
- c) Study the **use of IMT system for fixed wireless broadband** in the frequency bands **allocated to the fixed services** on primary basis ▶ [Res. 175 \(WRC-19\)](#)

## Additional topic identified at CPM23-1

- d) **Protection of EESS (passive)** in the frequency band **36-37 GHz** from **non-GSO FSS space stations** ▶ [WRC-19 Doc. 573 Sec. 35.2](#)

Note: CPM23-1 also identified responsible ITU-R Working Parties (WPs) for the following studies to be reported directly to the BR Director:

- “Updating provisions related to aeronautical services in the Radio Regulations” (by WP 5B, see [CA/251 Annex 4](#) and Resolution **427 (WRC-19)**)
- “Applicability of the limit specified in No. **21.5** of the Radio Regulations to IMT stations, that use an antenna that consists of an array of active elements” (by WP 5D, see [CA/251 Annex 4](#) and [WRC-19 Document 550](#))

# WRC-27 Preliminary Agenda items

WRC-23 agenda item 10

▶ [see Res. 812 \(WRC-19\)](#)

- 2.1 ▶ Consider **additional RLS spectrum allocations** on a co-primary basis in the band **231.5-275 GHz** and **identification for RLS applications** in bands in the range **275-700 GHz** for millimetre and sub-millimetre wave **imaging systems** ▶ [Res. 663 \(WRC-19\)](#)
- 2.2 ▶ Consider the technical, operational and regulatory measures, as appropriate, to facilitate the **use of the bands 37.5-39.5 GHz (s-E), 40.5-42.5 GHz (s-E), 47.2-50.2 GHz (E-s) and 50.4-51.4 GHz (E-s)** by **aeronautical and maritime earth stations in motion (ESIM)** communicating with **GSO FSS** space stations ▶ [Res. 176 \(WRC-19\)](#)
- 2.3 ▶ Consider the allocation of all or part of the frequency band **[43.5-45.5 GHz]** to the **fixed-satellite service** ▶ [Res. 177 \(WRC-19\)](#)
- 2.4 ▶ Consider the introduction of **pfd and e.i.r.p. limits in Article 21** for the frequency bands **71-76 GHz** and **81-86 GHz** ▶ [Res. 775 \(WRC-19\)](#)
- 2.5 ▶ Consider conditions for the use of the **71-76 GHz** and **81-86 GHz** bands by stations in the **satellite services** to ensure **compatibility with passive services** ▶ [Res. 776 \(WRC-19\)](#)
- 2.6 ▶ Consider regulatory provisions for recognition of **space weather sensors** and their protection in the RR, taking into account the results of ITU R studies reported to **WRC-23 under agenda item 9.1** ▶ [Res. 657 \(Rev.WRC-19\)](#)





# WRC-27 Preliminary Agenda items (cont'd)

WRC-23 agenda item 10

▶ [see Res. 812 \(WRC-19\)](#)

- 2.7 ▶ Consider **NGSO FSS system feeder links** in the bands **71-76 GHz** (space-to-Earth and proposed new Earth-to-space) and **81-86 GHz** (Earth-to-space) ▶ [Res. 178 \(WRC-19\)](#)
- 2.8 ▶ Consider **space-to-space links** in the bands **[1 525-1 544 MHz]**, **[1 545-1 559 MHz]**, **[1 610-1 645.5 MHz]**, **[1 646.5 1 660.5 MHz]** and **[2 483.5-2 500 MHz]** among **NGSO and GSO satellites** operating in the **MSS** ▶ [Res. 249 \(WRC-19\)](#)
- 2.9 ▶ Consider spectrum allocations to the **MS** in the band **1 300-1 350 MHz** to facilitate the **future development of mobile-service applications** ▶ [Res. 250 \(WRC-19\)](#)
- 2.10 ▶ Consider **improving the utilization** of the **VHF maritime frequencies** in Appendix 18 ▶ [Res. 363 \(WRC-19\)](#)
- 2.11 ▶ Consider **new EESS (Earth-to-space) allocation** in the band **22.55-23.15 GHz** ▶ [Res. 664 \(WRC-19\)](#)
- 2.12 ▶ Consider **use of existing IMT identifications** in the frequency range **694-960 MHz** by consideration of the possible **removal of the limitation regarding aeronautical mobile** in the IMT for the **use of IMT user equipment by non-safety applications**, where appropriate ▶ [Res. 251 \(WRC-19\)](#)
- 2.13 ▶ Consider a possible **worldwide allocation** to the **MSS** for the **future development of narrowband mobile-satellite systems** in the range **[1.5-5 GHz]** ▶ [Res. 248 \(WRC-19\)](#)

[www.itu.int/ITU-R/go/rcpm](http://www.itu.int/ITU-R/go/rcpm)

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# CPM Chapter Rapporteurs

<u>Chapters</u>	<u>(Co-)Rapporteurs</u>
1. Fixed, Mobile and Broadcasting issues	<b>Dr. H. ATARASHI (J)</b> for Als 1.1, 1.2 and 1.4 <b>Mr. U.A. MAHMUD (NIG)</b> for Als 1.3 and 1.5
2. Aeronautical and maritime issues	<b>Mr. M. ALHASSANI (UAE)</b>
3. Science issues	<b>Mr. T. A. BAKAUS (B)</b>
4. Satellite issues	<b>Ms. F. MAGNIER (F)</b> for Als 1.15, 1.16, 1.17, 1.18, 1.19 <b>Mr. G. KWIZERA (RRW)</b> for AI 7
5. General issues	<b>Mr. J. HUANG (CHN)</b> <b>Dr. J. PARK (KOR)</b>

(see details at [www.itu.int/en/ITU-R/study-groups/rcpm/Pages/cpm-23-chp-rapporteurs.aspx](http://www.itu.int/en/ITU-R/study-groups/rcpm/Pages/cpm-23-chp-rapporteurs.aspx))



# New TG 6/1 on WRC-23 AI 1.5

- ✓ Taking into account **CPM23-1 Decision** (see [CA/251 Annex 9](#)), **SG 6 established new TG 6/1** ([www.itu.int/en/ITU-R/study-groups/rsg6/tg6-1](http://www.itu.int/en/ITU-R/study-groups/rsg6/tg6-1))
- ✓ **SG 6 appointed Mr. Sergey PASTUKH as the Chairman**
- ✓ **SG 5 appointed Dr. Abdulhadi ABOU-ALMAL as the Vice-Chairman**
- **By 15 May 2021**, in accordance with *resolves to invite ITU-R 1* of [Res. 235 \(WRC-19\)](#), results of studies on **spectrum use and spectrum needs** within the band **470-960 MHz** should be reported by:
  - **Working Party (WP) 6A** regarding the **Broadcasting Service** (including the needs of the countries party to the GE06 Agreement)
  - **SG 5 relevant WPs** regarding the **Mobile** (except aeronautical mobile) **Service**
- **By 15 May 2021**, study assumptions (incl. propagation model, system parameters) and **technical characteristics** including protection criteria of the **services allocated** in the band **470-694 MHz** should be provided by the **WPs\***  
(\* Contributing Working Parties: 3K, 3M, 5A, 5B, 5C, 5D, 6A)
- **TG 6/1 is responsible for conducting the sharing and compatibility studies** ([resolves to invite ITU-R 2 & 3](#)) and **developing the draft CPM text**
- **CPM23-1 provided also elements for the scheduling of the 5 or 6 meetings of TG 6/1**



# Radio service abbreviations (1/2)

<b>Abbreviations</b>	<b>Radio services</b>	<b>RR definition</b>
AMS	aeronautical mobile service	No. <b>1.32</b>
AM(R)S	aeronautical mobile (route) service	No. <b>1.33</b>
AMSS	aeronautical mobile-satellite service	No. <b>1.35</b>
AMS(R)S	aeronautical mobile-satellite (route) service	No. <b>1.36</b>
ARNS	aeronautical radionavigation service	No. <b>1.46</b>
ARNSS	aeronautical radionavigation-satellite service	No. <b>1.47</b>
ARS	amateur service	No. <b>1.56</b>
ARSS	amateur-satellite service	No. <b>1.57</b>
BS	broadcasting service	No. <b>1.38</b>
BSS	broadcasting-satellite service	No. <b>1.39</b>
EESS	Earth exploration-satellite service	No. <b>1.51</b>
FS	fixed service	No. <b>1.20</b>
FSS	fixed-satellite service	No. <b>1.21</b>
ISS	inter-satellite service	No. <b>1.22</b>
LMS	land mobile service	No. <b>1.26</b>
LMSS	land mobile-satellite service	No. <b>1.27</b>
MetAids	meteorological aids service	No. <b>1.50</b>
MetSat	meteorological-satellite service	No. <b>1.52</b>

# Radio service abbreviations (2/2)

<b>Abbreviations</b>	<b>Radio services</b>	<b>RR definition</b>
MMS	maritime mobile service	No. <b>1.28</b>
MMSS	maritime mobile-satellite service	No. <b>1.29</b>
MRNS	maritime radionavigation service	No. <b>1.44</b>
MRNSS	maritime radionavigation-satellite service	No. <b>1.45</b>
MS	mobile service	No. <b>1.24</b>
MSS	mobile-satellite service	No. <b>1.25</b>
RAS	radio astronomy service	No. <b>1.58</b>
RDS	radiodetermination service	No. <b>1.40</b>
RDSS	radiodetermination-satellite service	No. <b>1.41</b>
RLS	radiolocation service	No. <b>1.48</b>
RLSS	radiolocation-satellite service	No. <b>1.49</b>
RNS	radionavigation service	No. <b>1.42</b>
RNSS	radionavigation-satellite service	No. <b>1.43</b>
SOS	space operation service	No. <b>1.23</b>
SFTSS	standard frequency and time signal service	No. <b>1.53</b>
SFTSSS	standard frequency and time signal-satellite service	No. <b>1.53</b>
SRS	space research service	No. <b>1.55</b>