



ITU - ATU REGIONAL
RADIOCOMMUNICATION
SEMINAR FOR AFRICA

DAKAR, SENEGAL
27-31 MARCH 2017

www.itu.int/go/ITU-R/seminars



Organised by:



WRC-19 PREPARATION

Akim FALOU DINE (akim.faloudine@itu.int)

Radiocommunication Bureau, ITU



Purpose of ITU WRCs

- **Create regulatory certainty for a multi-trillion dollars industry which plays an increasingly important role in the development of our societies**
- **For fixed, mobile, satellites and broadcasting industries, global spectrum harmonization is essential to create economies of scale, roaming and interoperability**
- **Creating certainty requires consensus in order to achieve stable results.
This demands time, efforts and patience.**

The WRC Purposes

✓ Updates the Radio Regulations (CS* 89)

(treaty status)

- Spectrum Allocation
- Coordination and Notification procedures
- Administrative and operational procedures



Radio
Regulations

✓ Adopts Resolutions

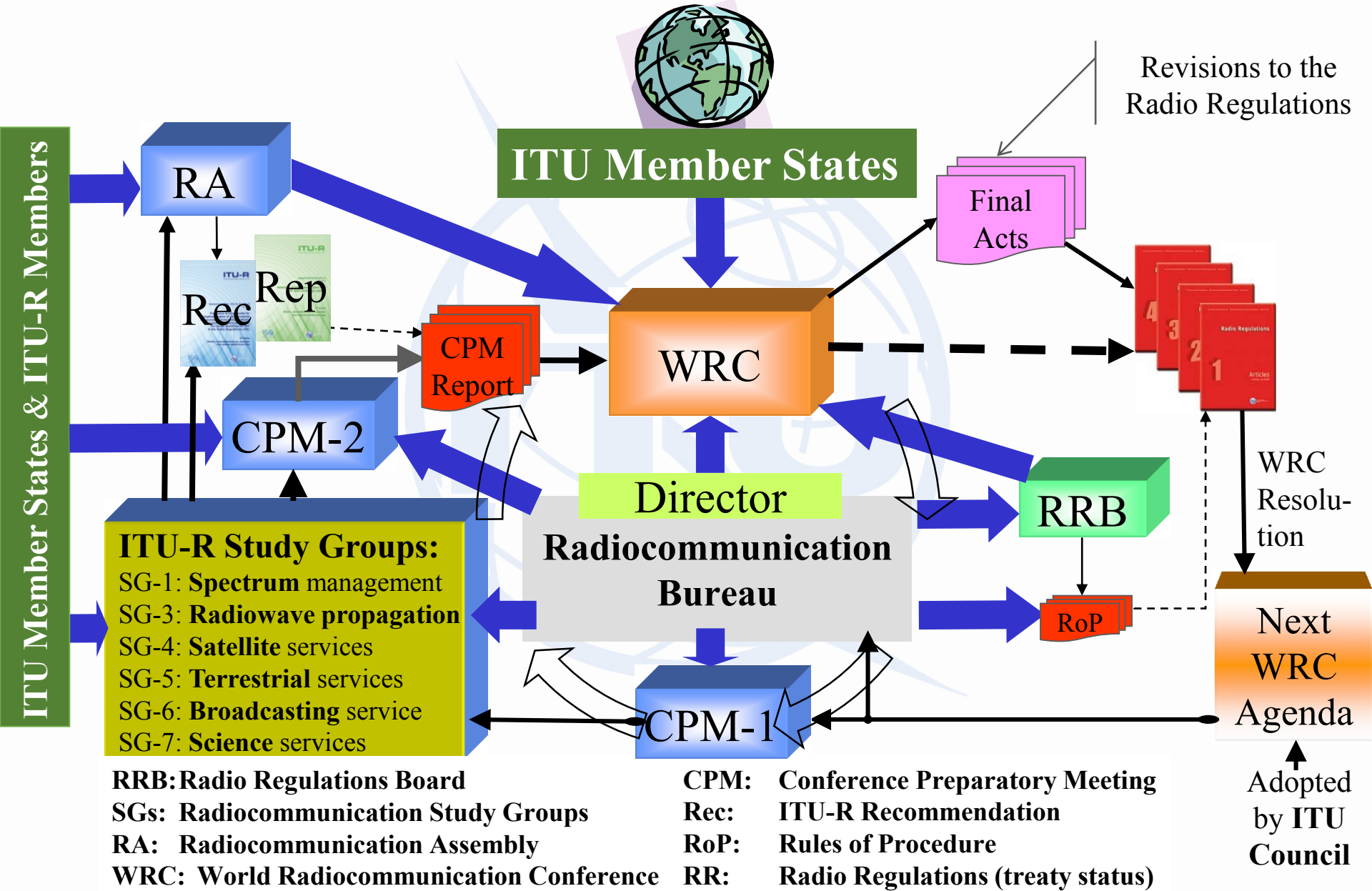
✓ Held every 3-4 years (CS* 90)

✓ Additional provisions in CV* and GR*

* Constitution (CS), Convention (CV) and General Rules (GR) of Conferences, Assemblies and Meetings of the ITU are available in ITU Collection of Basic Texts (www.itu.int/pub/S-CONF-PLEN)



The WRC Cycle



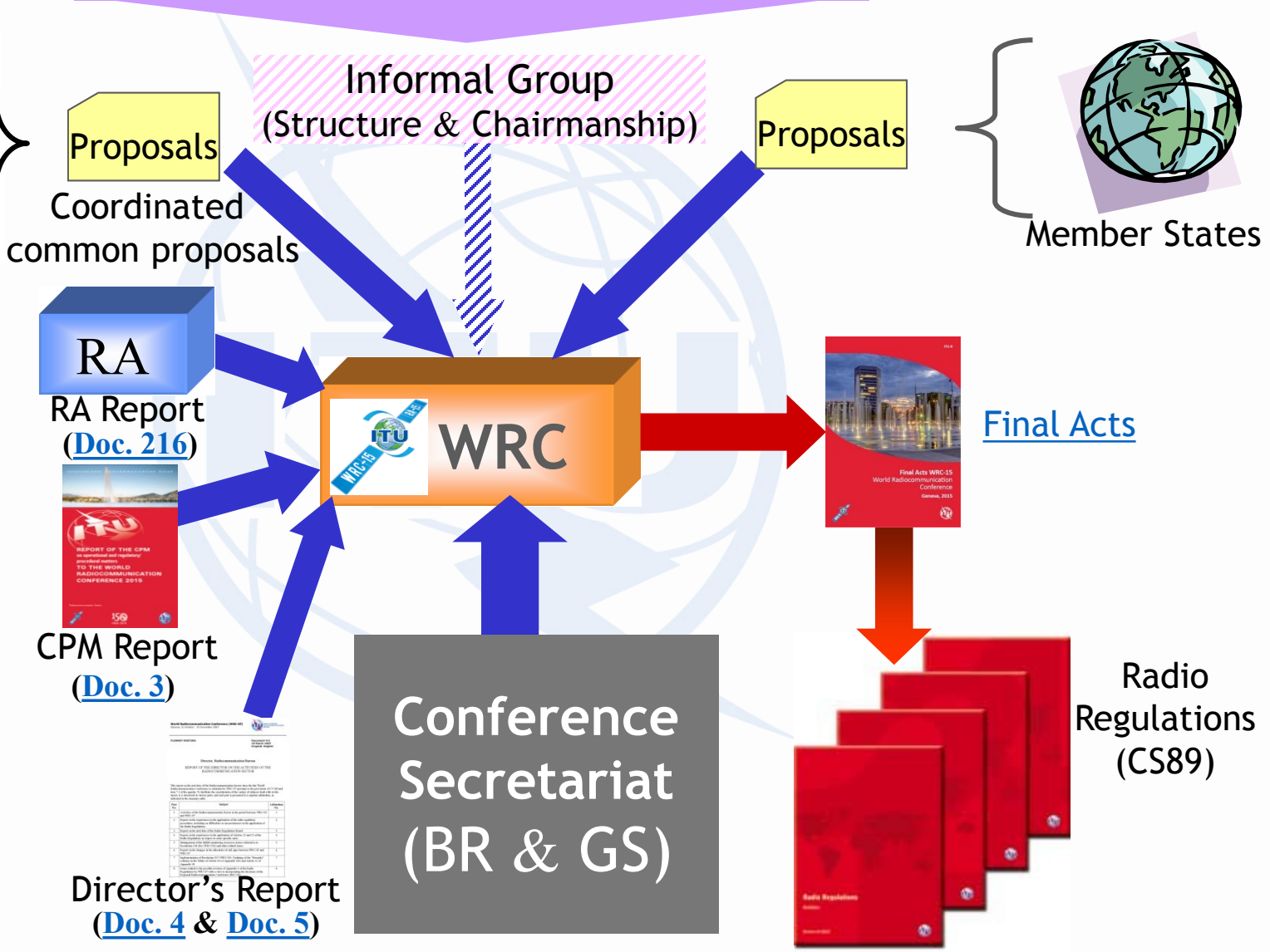


Overview of the preparations

Agenda: draft in WRC Res & final in Council Res

(WRC-15 Docs)

- APT** (Doc. 32)
- ASMG** (Doc. 25, also 43, 144, 189)
- ATU** (Doc. 28)
- CEPT** (Doc. 9)
- CITEL** (Doc. 7)
- RCC** (Doc. 8, also 146, 270)



Regional preparation Resolution 72 (Rev.WRC-07)



Some statistics on WRC-15

Took place from 2 to 27 November 2015 in Geneva

➤ **3275 Participants**
(2780 from MS & 495 from OE)

➤ **162 Member States**

➤ **130 Observers**

➤ **678 Documents**
submitted with MS proposals

➤ **2888 MS Proposals**
~2/3 of common proposals



WRC-15 Plenary
45h10m / 25 sessions

COMs 4, 5, 6 level:
53h40m / 37 sessions

WG level:
113h45m / 79 sessions

SWG level:
350h15m / 246 sessions

AHG level:
128h50m / 113 sessions



WRC-15 outcome & follow-up



WRC-15 Final Acts available at:
www.itu.int/pub/R-ACT-WRC.12-2015
([ITU CL-16/22 of 17 May 2016](#))

See relevant BR Circular Letters at:
www.itu.int/md/R00-CR-CIR/en

Circulars

Number	Received	Source	Title
...			
[407]	2016-07-05	Director, BR	Implementation of decisions of the World Radiocommunication Conference, Geneva 2015 (WRC-15), related to earth stations on board unmanned aircraft (Resolution 155 (WRC-15))
[406]	2016-06-21	Director, BR	Implementation of decisions of the World Radiocommunication Conference, Geneva 2015 (WRC-15) and associated transitional arrangements related to terrestrial services
[405]	2016-05-24	Director, BR	Equivalent power flux density (EPFD) validation software (Resolution 85 (WRC-03))
[404]	2016-05-23	Director, BR	Submission of typical earth stations in the fixed-satellite service
[403]	2016-06-21	Director, BR	Implementation of decisions of the World Radiocommunication Conference, Geneva, 2015 (WRC-15) and associated transitional arrangements related to space services
[402]	2016-05-26	Director, BR	Rules of Procedure approved by the Radio Regulations Board
[401]	2016-05-02	Director, BR	Transitional measures for the elimination of advance publication filings by administrations for frequency assignments to satellite networks and systems subject to Section II of Article 9
[400]	2016-04-29	Director, BR	Implementation of revised Appendices 30 and 30A (Rev. WRC-15) and Resolution 556 (WRC-15)
...			

[389] ... WRC-15 decisions included in the Minutes of Plenary meetings





Radio Regulations (2016 Ed.)

www.itu.int/pub/R-REG-RR/en

Radio Regulations

The Radio Regulations contains the complete texts as adopted by the World Radiocommunication Conference (Geneva, 1995) (WRC-95) and subsequently revised and adopted by World Radiocommunication Conferences, including all Appendices, Resolutions, Recommendations and ITU-R Recommendations incorporated by reference.

Related links

- [World Radiocommunication Conferences](#)



2016 **New!** [Publication Notice with Order Form](#)

The Radio Regulations, edition of 2016, contains the complete texts of the Radio Regulations as adopted by the World Radiocommunication Conference (Geneva, 1995) (WRC-95), subsequently revised and approved by the World Radiocommunication Conference (Geneva, 1997) (WRC-97), the World Radiocommunication Conference (Istanbul, 2000) (WRC-2000), the World Radiocommunication Conference (Geneva, 2003) (WRC-03), the World Radiocommunication Conference (Geneva, 2007) (WRC-07), the World Radiocommunication Conference (Geneva, 2012) (WRC-12) and the World Radiocommunication Conference (Geneva, 2015) (WRC-15), including all Appendices, Resolutions, Recommendations and ITU-R Recommendations incorporated by reference. Available: end-October 2016

Available in



Other editions: [2012 Edition](#) [Edition of 2008](#) [Edition of 2004](#) [Edition of 2001](#) [Edition of 1998](#)



WRS-16 & RR-110th Anniversary

ITU World Radiocommunication Seminar 2016 (WRS-16), 12 to 16 December 2016, Geneva, Switzerland

www.itu.int/go/WRS-16

YOU ARE HERE HOME > ITU-R > SEMINARS > WRS > WRS-16

SHARE    

110th anniversary of the ITU Radio Regulations (1906-2016) - #RR110

The ITU Ra
World Radio

The ITU or
Regional R
satellite orb

WRS-16 se

1. OPENING
REGULATION

From 09:30
The opening

the opening
the celebration

2. WRS-16

3. WRS-16 WORKSHOPS (14 to 16 Dec. 2016)

YOU ARE HERE HOME > ITU-R > RADIO REGULATIONS 110TH ANNIVERSARY (1906-2016)

www.itu.int/en/ITU-R/RR110

The ITU is celebrating this year the 110th anniversary of the Radio Regulations, a success story of international cooperation among Members States with the inestimable support of telecommunication industry partners.

Description

International Telecommunication Union (ITU) is the United Nations specialized agency for information and communication technologies – ICTs.

ITU manages the radio spectrum and satellite orbits resources, develop the technical standards that ensure networks and technologies seamlessly interconnect, and strive to improve access to ICTs to underserved communities worldwide.

History

ITU's history is closely linked to the development of radiocommunications. The crucial role wireless systems are playing in the efficient and timely deployment of communications infrastructure is key in the efforts being undertaken by the global community to bridge the digital divide and in helping the world communicate.

In 1906 the first International Radiotelegraph Conference gathered 29 states in Berlin to sign the 'International



The global treaty behind your mobile communications celebrates its 110th anniversary.



Main Steps towards WRC-19

WRC-15: **WRC-19 Agenda** - Resolution 809 (WRC-15)

1st Session of Conference Preparatory Meeting: CPM19-1
30 Nov – 1 Dec. 2015; **Results @CA/226** of 23/12/2015

Council-16: WRC-19 agenda in Res. 1380 with dates & venue
Approved/Confirmed in **Geneva** after Member States consultation (CV Nos. 42 & 118) (CL-16+/57)

2nd Session of Conference Preparatory Meeting: CPM19-2
Planned dates at CICG in Geneva from 18 to 28 February 2019

Final meetings of regional groups
Member States' proposals to WRC-19

RA-19: 21 to 25 Oct. 2019 ; WRC-19: 28 Oct. to 22 Nov. 2019



CPM-19

www.itu.int/ITU-R/go/rcpm

Chairman

Mr K. AL-AWADHI (UAE), E-mail: khalid.alawadi@tra.gov.ae

Vice-Chairmen, CPM

Mr M. AL BADI (OMA), E-mail: albadi@tra.gov.om

Ms C. BEAUMIER (CAN), E-mail: Chantal.Beaumier@ic.gc.ca

Mr X. GAO (CHN), E-mail: gaoxiaoyang@chinasatcom.com

Mr V. GOEL (IND), E-mail: viresh.goel@gmail.com

Mr A. KÜHN (D), E-mail: alexander.kuehn@bnetza.de

Dr H. SEONG (KOR), E-mail: seong@msip.go.kr

Mr T. SHAFIEE (IRN), E-mail: shafiee@cra.ir

Mr. A. V. VASSILIEV (RUS), E-mail: alexandre.vassiliev@ties.itu.int

(see details at www.itu.int/go/ITU-R/cvc/CPM)



First Session of CPM-19

Scope defined in [Resolution ITU-R 2-7](#)

- ✓ **Geneva, 30 November - 1 December 2015**
(269 participants, 63 MS, 25 SM, 13 contributions)
⇒ **results published in CA/226, of 23 Dec. 2015**
(see at <http://www.itu.int/md/R00-CA-CIR-0226/en>)
- **Define framework of preparatory studies with Structure of the draft CPM Report** (see the proposed detailed structure at: <http://www.itu.int/oth/R0A0A00000A/en>) **and six Chapter Rapporteurs**
- **Identify responsible ITU-R Groups**
for each WRC-19 agenda item (AI) and issue
⇒ **9 existing Working Parties and**
⇒ **Proposed new TG 5/1 for AI 1.13 (ToR in Annex 9 of [CA/226](#))**
+ 3 existing WPs for the WRC-23 preliminary agenda items
and concerned (contributing / interested) ITU-R groups
(see Annexes 7 and 8 to [CA/226](#))



Topics on the WRC-19 Agenda

17 specific & 6 standing items, **Res.809** (WRC-15)



1.13 **Fix. & Mob. BB Apps**
 1.14 (24.25 < IMT < 86 GHz,
 1.15 HAPS, Apps.Id>275 GHz,
 1.16 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)

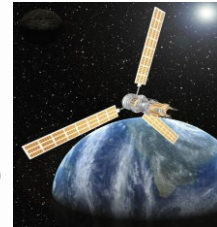


Aeronautical
 (GADSS needs)



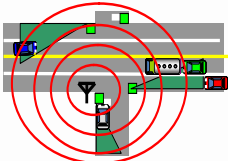
1.10

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



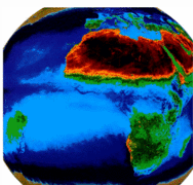
1.4, 1.5, 1.6

New Transport systems
 (harmonized bands
 for railways, ITS)



1.11
 1.12

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



Regulatory issues
 (Sat. regulations, 7
 harmonization of 8
 spectrum use, etc.)



➤ See additional information in the slides attached to this presentation

Note: WRC-19 agenda item numbers indicated in italic



Agenda item 9.1 Issues

9.1.1

Res. 212 – Terrestrial & Satellite components of IMT
(Rev.WRC-15) co-existence & compatibility @1885-2025 & 2110-2200 MHz

9.1.2

Res. 761 – IMT and BSS sound @ 1452-1492 MHz
(WRC-15) in Regions 1 and 3

9.1.3

Res. 157 – Technical/Operational/Regulatory studies for
(WRC-15) new N-GSO Sat. in “C-Band” allocated to FSS

9.1.4

Res. 763 – Stations on board sub-orbital vehicles
(WRC-15)

9.1.5

Res. 764 – IbR of Rec. ITU-R M.1638-1 & M.1849-1
(WRC-15) (MS(RLAN)@5GHz & new radar characteristics)

9.1.6

Res. 958 – 1) Urgent studies on Wireless Power
(WRC-15) Transmission (WPT) for electric vehicles

9.1.7

Res. 958 – 2) Managing unauthorized operations of
(WRC-15) Earth Station terminals

9.1.8

Res. 958 – 3) Narrowband & BB machine-type
(WRC-15) communication infrastructures

9.1.9

Res. 162 – FSS needs @ 51.4-52.4 GHz
(WRC-15)



Overlapping frequency bands (GHz) between some WRC-19 agenda items

AI1.6 – NGSO FSS <u>Res. 159 (WRC-15)</u>	AI1.13 – IMT <u>Res. 238 (WRC-15)</u>	AI1.14 – HAPS <u>Res. 160 (WRC-15)</u>	AI9.1 (9.1.9) – FSS <u>Res. 162 (WRC-15)</u>
	24.25-27.5	24.25-27.5 (Reg. 2)	
37.5-39.5 (s-E*)	37-40.5	38-39.5 (globally)	
39.5-42.5 (s-E*)	40.5-42.5		
47.2-50.2 (E-s*)	47.2-50.2		
50.4-51.4 (E-s*)	50.4-52.6		51.4-52.4 (E-s*)

* E-s: Earth-to-space; s-E: space-to-Earth.

Studies to address mutual compatibility & sharing feasibility among the **services/applications** for which **allocation/identification is envisaged** under the corresponding Res. relating to the AI in the overlapping bands



Draft CPM Report – ToC

(see Annex 6 to [CA/226](#))

Chapters of the draft CPM Report

WRC-19 Agenda items

- | | |
|--|--|
| 1. Land mobile and fixed services | 1.11, 1.12, 1.14, 1.15 |
| 2. Broadband applications in the mobile service | 1.13, 1.16, 9.1 (9.1.1, 9.1.5, 9.1.8) |
| 3. Satellite services | 1.4, 1.5, 1.6, 7, 9.1 (9.1.2, 9.1.3, 9.1.9) |
| 4. Science services | 1.2, 1.3, 1.7 |
| 5. Maritime, aeronautical and amateur services | 1.1, 1.8, 1.9.1, 1.9.2, 1.10, 9.1 (9.1.4) |
| 6. General issues | 2, 4, 9.1 (9.1.6, 9.1.7), 10 |



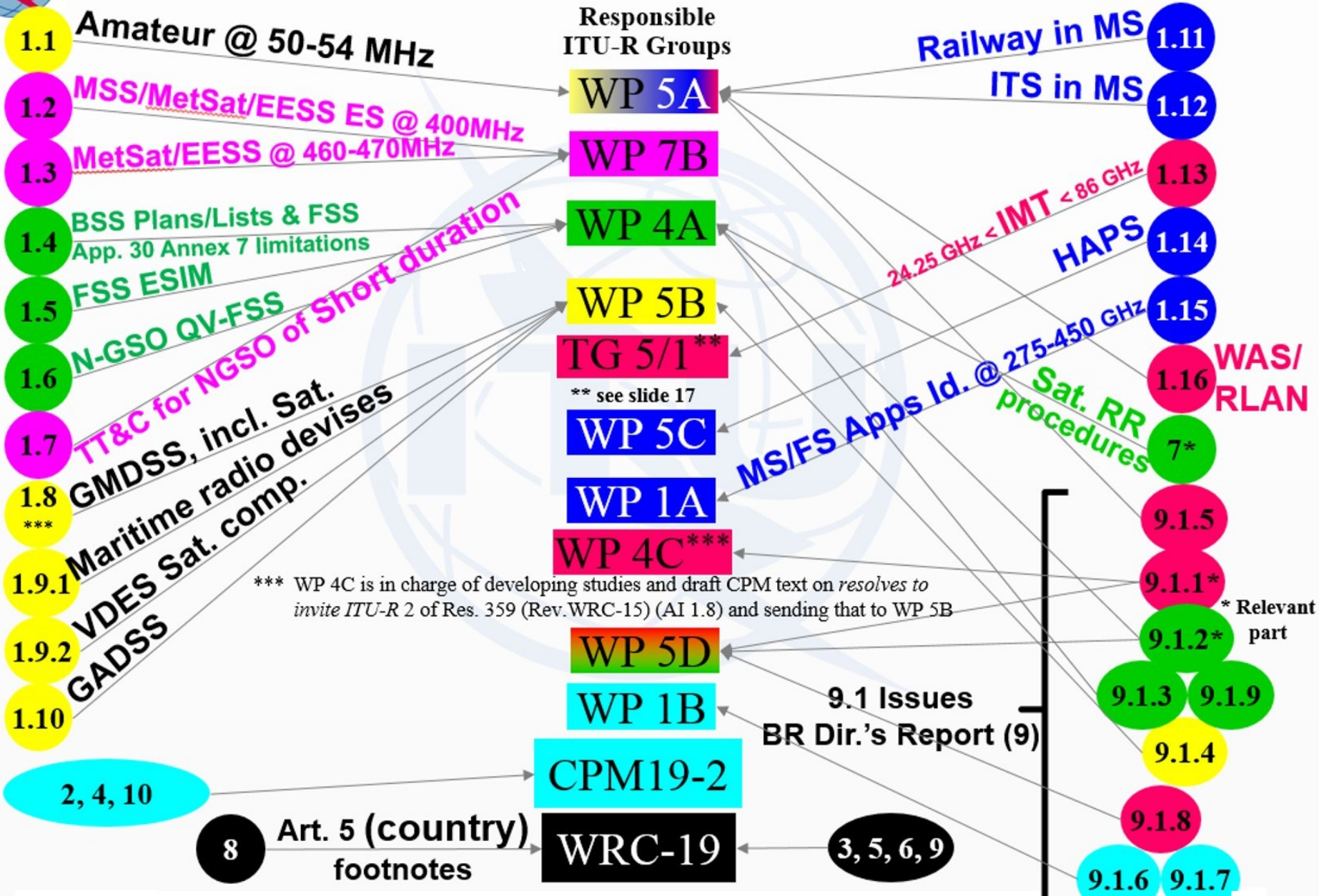
CPM Chapter Rapporteurs

<u>Chapters</u>	<u>Rapporteurs</u>
1. Land mobile and fixed services	Ms K. ZHU (CHN), Email: Zhukeer@miit.gov.cn
2. Broadband applications in the mobile service	Mr J. ARIAS FRANCO (MEX), Email: jose.arias@ift.org.mx
3. Satellite services	Mr N. VARLAMOV (RUS), Email: vnv73@mail.ru
4. Science services	Mr V. MEENS (F), Email: vincent.meens@cnes.fr
5. Maritime, aeronautical and amateur services	Mr W. EL SAYED (EGY), Email: wsayed@ntra.gov.eg
6. General issues	Mr P.N. NGIGE (KEN), Email: ngige@cck.go.ke

(see details at www.itu.int/en/ITU-R/study-groups/rcpm/Pages/cpm-19-chp-rapporteurs.aspx)



WRC-19 agenda items & Resp. Groups





WRC-23 preliminary items & Resp. Groups

5 preliminary agenda items, **Res. 810** (WRC-15)

Responsible
ITU-R Groups

- | | | | |
|-----|---|---|-------|
| 2.1 | Res. 361 – Spectrum for GMDSS modernization & implementation of e-navigation (WRC-15) | → | WP 5B |
| 2.2 | Res. 656 – Possible new allocations for EESS (active) for spaceborne radar sounders @ 45 MHz (WRC-15) | ↘ | WP 7C |
| 2.3 | Res. 657 – Spectrum needs & designation of radio services for space weather sensors (WRC-15) | | |
| 2.4 | Res. 161 – Possible new allocations for FSS @ 37.5-39.5 GHz (WRC-15) | → | WP 4A |
| 2.5 | Res. 235 – Spectrum use and needs of existing services @ 470-960 MHz in Region 1 and possible regulatory actions @ 470-694 MHz in Region 1 (WRC-15) | | none |



Task Group 5/1 on WRC-19 AI 1.13

Taking into account CPM19-1 Decision ([CA/226 Annex 9](#)), SG 5 established new TG 5/1 (www.itu.int/en/ITU-R/study-groups/rsg5/tg5-1)

- **Conduct sharing and compatibility studies**
- **Develop draft CPM text under WRC-19 agenda item 1.13 to be submitted directly to the CPM-19 Process**
- **Considering results from**
 - WP 5D* on studies on spectrum needs, technical and operational characteristics of IMT by **31 March 2017**
 - Technical characteristics including protection criteria provided by involved Working Parties* by **31 March 2017** for existing services allocated in, or adjacent to bands
 - SG 3 WPs* on propagation models by **31 March 2017**;
- **TG 5/1 will work making maximum use of modern means of communications, incl. remote participation to the extent practicable**
- **TG 5/1 management team including AI 1.13 coordinators from the six regional groups (APG, ASMG, ATU, CEPT, CITEL, RCC)**

* Involved Working Parties contributing to this issue: 3J, 3K, 3M, 4A, 4B, 4C, 5A, 5B, 5C, 5D, 6A, 7B, 7C, 7D



Reply LS to TG 5/1 for studies on AI 1.13 *

2nd TG 5/1 meeting confirmed to be held on 15-23 May 2017 (see CR [5/LCCE/65](#))

From *	TG 5/1 Doc. (date)	Liaison Statement (LS) Title / Service(s) / System(s)
WP 5D	36 (28 Feb'17)	Spectrum needs & characteristics for the terrestrial component of IMT in the freq. range between 24.25 & 86 GHz
WP 4A	25 (19 Oct'16)	FSS/BSS Technical parameters for sharing studies under WRC-19 ... 1.13
WP 4C	23 (29 Sep'16)	MSS parameters for studies under WRC-19 agenda item 1.13
WP 5A	32 (1 Dec'16)	LM systems tech. characteristics in bands 66-71 & 71-76 GHz (involving MGWS)
WP 5B	33 (11 Jan'17)	Information on aeronautical & radiodetermination systems relevant to WRC-19 agenda item 1.13
WP 5C	31 (21 Nov'16)	(FS) System parameters & considerations in the development of criteria for sharing or compatibility studies
WP 7B	28 (2 Nov'16)	(SRS/ISS/EESS) Technical characteristics in primary science service allocations ... in or adjacent to frequency bands to be studied under ... 1.13
WP 7C	29 (3 Nov'16)	Protection & sharing criteria of EESS/SRS (passive) in adjacent freq. bands
WP 7D	27 (3 Nov'16)	Parameters concerning the RAS for WRC-19 agenda item 1.13
WP 6A	[Broadcasting , next meeting on 21-29 March 2017]	
SG 3 WPs*	[Propagation models , next meeting on 22-29 March 2017]	

* Involved Working Parties contributing to this issue: [3J](#), [3K](#), [3M](#), [4A](#), [4B](#), [4C](#), [5A](#), [5B](#), [5C](#), [5D](#), [6A](#), [7B](#), [7C](#), [7D](#)

See also [Doc. 5-1/35](#) on "Template for sharing and compatibility studies"



Agenda item 7 Issues

(identified by WP 4A as of Oct'16)

- ✓ **Seven issues identified so far under AI 7:**
 - A. Factors related to the **BiU** of frequency assignments of **non-GSO systems subject to coordination**
 - B. **Modification** (characteristics reduction) of a **recorded assignment** under RR App. **30 & 30A** Reg. 1 and 3 List
 - C. Discrepancy and/or inconsistency between RR provisions dealing with any changes to characteristics of assignment
 - D. **Ident. specific sat. networks & systems** to coordinate with, under RR Nos. **9.12, 9.12A** and **9.13** or **9.21**
 - E. Harmonization of RR App. **30B** with RR App. **30 & 30A**
 - F. Enhancement of RR App. **30B** provisions to observe the principles based on which it was initially established
 - G. Updating ref. sit. for networks in RR App. **30 & 30A** after conversion into definitive of provisionally recorded assign^{nts}



Responsible ITU-R Groups activities

- ⇒ **Examine contributions from the membership** (Member States, Sector members, Associates, Academia)
- ⇒ **Ensure necessary coordination with the concerned groups** (contributing/interested working parties)
- ⇒ **Carry out technical studies** (incl. compatibility & sharing) & **develop necessary draft ITU-R Rec. & Reports** for consideration by the relevant ITU-R Study Group(s)
- ⇒ **Develop draft CPM texts**, including:
 - **Background; Summary & Analysis of study results**
 - **Proposed method(s) to satisfy the agenda items**
 - **with associated examples of regulatory texts** to be sent to **CPM Chp. Rap.** on time for **CPM19-2**
- ⇒ **Finalize the technical studies prior to RA-19**

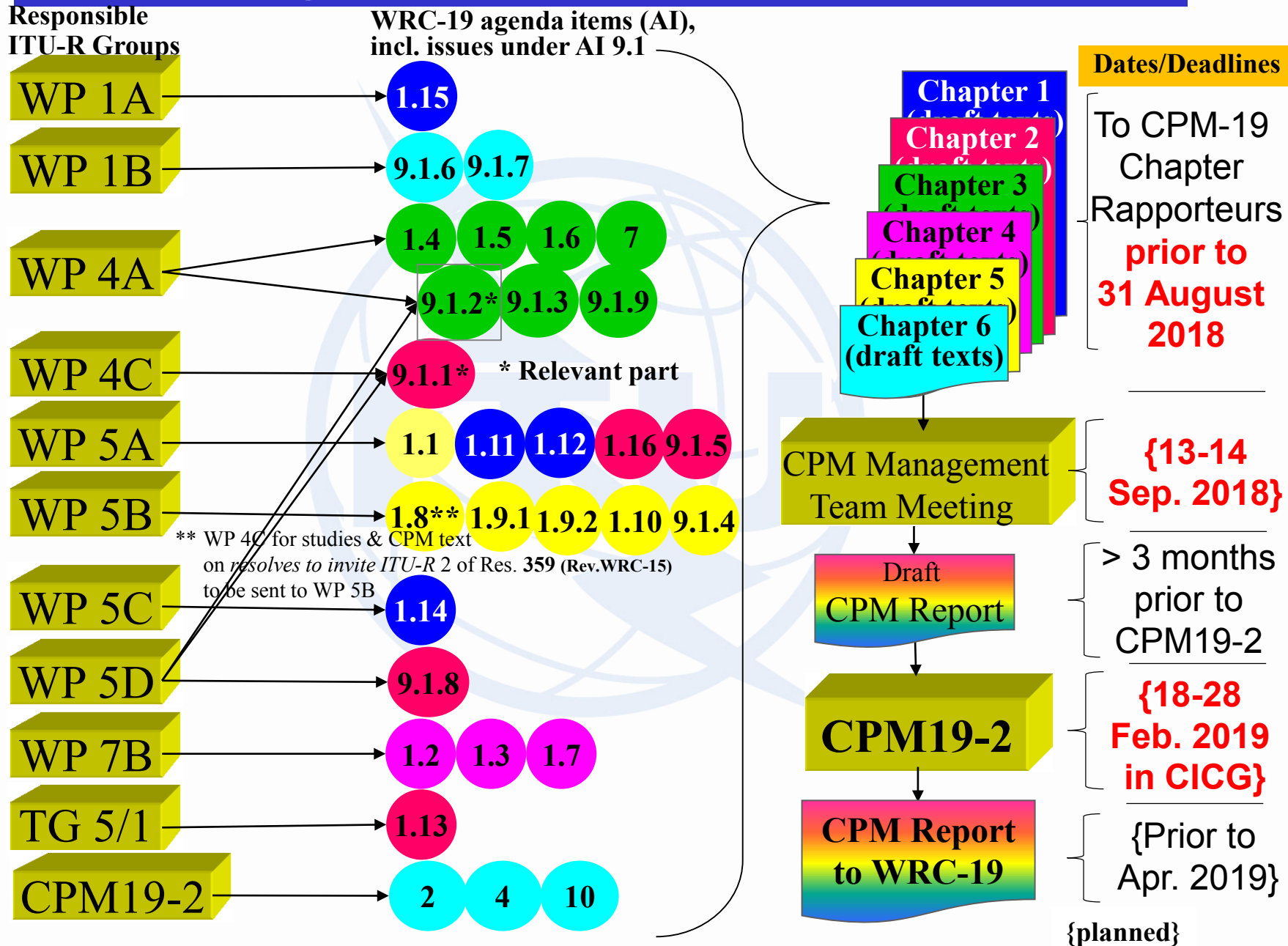


Preparation of WRC-19 agenda item 8

- Consider/take appropriate action on **requests from ADMs to delete their country footnotes** or to **have their country name deleted from footnotes**, if no longer required, taking into account Resolution **26 (Rev.WRC-07)**
- **At least last two WRCs adopted a similar approach:**
see WRC-15 Doc. 142 (Rev.1) at: www.itu.int/md/R15-WRC15-C-0142
- ✓ **ADD of FN or MOD of FN** addressed by Res. 26 (Rev. WRC-07) **were considered under the relevant WRC agenda item**, as appropriate, and had to be re-submitted under that relevant AI. *(would be better to submit them directly under the relevant AI)*
- ✓ Other **ADD of FN** were **not considered!**
- ✓ Other **MOD of FN** to add ADM's name **were accepted**, until the end of the 1st week and treated under AI 8, under certain circumstances on a purely exceptional basis & if justified, **subject to the express condition of no objections** from affected countries
- ✓ **SUP of FN or MOD of FN** to sup. ADM's name **were accepted**, until end of the 2nd week, and considered under AI 8



Summary of CPM Report Preparation





CPM-19 Management Team

Organised in accordance with [Res. ITU-R 2-7](#) and composed of:

- CPM-19 Chairman, Vice-Chairmen and Chapter Rapporteurs
- Chairmen of Study Groups and Responsible Groups

⇒ **Consolidate the draft CPM texts/chapters into the draft CPM Report to WRC-19 (input to CPM19-2)**

See also [CA/226 Add.1](#) on Preparation of the **Draft CPM Report to WRC-19**

Second Session of CPM-19

- **Based on the draft CPM Report (available in six official ITU languages a minimum of 3 months before CPM19-2)**
- **Consider contributions from ITU Member States & ITU-R Sector Members**
- **Consider also a preliminary draft version of the BR Director's Report to WRC-19**
- ⇒ **To finalize the CPM Report to WRC-19 (incl. draft solutions (methods) to satisfy the agenda items**



Overview of the ITU-R Calendar towards WRC-19

Year	January – March	April – June	July – September	October – December
2015	CPM15-2	Last meetings of the Responsible Groups	WS on WRC-15	RA-15 WRC-15 CPM19-1
2016	WP 5D (1 st)	WPs 7B & 7C (1 st) WP 4C+WP 4A (1 st) WPs 5A, 5B & 5C (1 st) TG 5/1 (1 st) WPs 1A & 1B (1 st) WP 5D (2 nd)	WP 4C+WP 4A (2 nd) CPM-19 Steering	WP 5D (3 rd) WPs 7B & 7C (2 nd) WPs 5A, 5B & 5C (2 nd) WPs 1A & 1B (2 nd)
2017	WP 5D (4 th)	WPs 7B & 7C (3 rd) WP 4C+WP 4A (3 rd) TG 5/1 (2 nd) WPs 5A, 5B & 5C (3 rd) WPs 1A & 1B (3 rd) [WP 5D (5 th)]	[TG 5/1 (3 rd)]	[WP 5D (6 th)] [WP 4C+WP 4A (4 th)] [WPs 7B & 7C (4 th)] [WPs 5A, 5B & 5C (4 th)] [WS on WRC-19] [WPs 1A & 1B (4 th)]
2018	[Responsible Groups Meetings] [TG 5/1 (4 th)]	[Responsible Groups Meetings] [TG 5/1 (5 th)]	[TG 5/1 (6 th)] [Responsible Groups Meetings] CPM-19 Manag ^{nt} Team	[Responsible Groups Meetings] [WS on WRC-19]
2019	CPM19-2	[Last meetings of the Responsible Groups]	[WS on WRC-19]	RA-19 WRC-19

[...] = planned meetings

WS on WRC-19 = ITU Inter-regional Workshop on WRC-19 Preparation

Up-to-date information on ITU-R meetings at: www.itu.int/en/events/Pages/Calendar-Events.aspx?sector=ITU-R

Information on CPM19-2 Preparation (e.g. dates, deadlines) at: www.itu.int/md/R00-CA-CIR-0226



Next Meetings of Resp. Groups

Responsible
ITU-R Groups

WRC-19 agenda items (AI),
incl. issues under AI 9.1

Meeting dates

WP 7B

1.2 1.3 1.7

5 – 11 Apr. 17

WP 7C, responsible for WRC-23 preliminary agenda items 2.2 and 2.3, meets usually in parallel with WP 7B

WP 4C**

9.1.1*

* Relevant part

26 Apr. – 2 May 17

WP 4A

1.4 1.5 1.6 7

3 – 12 May 17

9.1.2* 9.1.3 9.1.9

TG 5/1

1.13

15-23 May 2017

WP 5A

1.1 1.11 1.12 1.16 9.1.5

22 May – 1 June 17

WP 5B

1.8** 1.9.1 1.9.2 1.10 9.1.4

22 May – 2 June 17

WP 5C

** WP 4C is in charge of developing studies and draft CPMI text on *resolves to invite ITU-R 2 of Res. 359 (Rev. WRC-15) (AI 1.8)* and sending that to WP 5B

1.14

22 – 31 May 17

WP 1A

1.15

13 – 20 June 17

WP 1B

9.1.6 9.1.7

(RG-WPT on 12 June 17)

WP 5D

9.1.8

13 – 21 June 17



ITU-R Preparatory Studies for WRC-19

Resolution 809 (WRC-15) contains the WRC-19 agenda.

www.itu.int/go/rcpm-wrc-19-studies

WRC-19 agenda Item (Chapter)	Issue	WRC Resolution (*)	Responsible Group(s)	Information from Responsible Group(s) ITU-R
1		-	-	-
1.1 (5)		Res. 658 (WRC-15)	WP 5A	Doc. 5A/298 Sections 3.3 & 4 and Annexes 4 (c), 5 (b), 14 & 15
1.2 (4)		Res. 765 (WRC-15)	WP 7B	Doc. 7B/112 Section 3.3.1 and Annexes 1 (b), 2 (c) & 19
1.3 (4)		Res. 766 (WRC-15)	WP 7B	Doc. 7B/112 Section 3.3.2 and Annexes 3 (b), 4 (c) & 20
1.4 (3)		Res. 557 (WRC-15)	WP 4A	Doc. 4A/196 Section 4.1.1 and Annexes 5 & 26 (b)
1.5 (3)		Res. 158 (WRC-15)	WP 4A	Doc. 4A/196 Section 4.1.2 and Annexes 16 to 20 & 27 (b)
1.6 (3)		Res. 159 (WRC-15)	WP 4A	Doc. 4A/196 Section 4.1.3 and Annexes 4, 8, 9 & 28 (b)
1.7 (4)		Res. 659 (WRC-15)	WP 7B	Doc. 7B/112 Section 3.1.3 and Annexes 5 (b), 6 (c), 15, 16 & 17
1.8 (5)		Res. 359 (Rev.WRC-15)	WP 5B (1)	Doc. 5B/195 Sections 2.1.1 & 3.3.1.2 and Annexes 1 (c) & 2 (b) Doc. 4C/43 Sections 3.2.4 & 4.2
1.9 / 1.9.1 (5) 1.9.1		Res. 362 (WRC-15)	WP 5B	Doc. 5B/195 Sections 2.1.1 & 3.3.1.3 and Annexes 3 (c), 4 (b), 19, 23, 33 & 36 <u>Circular Letter 5/LCCE/64</u> (Questionnaire)
1.9 / 1.9.2 (5)		Res. 360 (Rev. WRC-15)	WP 5B	Doc. 5B/195 Sections 2.1.1 & 3.3.1.4 and Annexes 5 (c), 6 (b) & 26
1.10 (5)		Res. 426 (WRC-15)	WP 5B	Doc. 5B/195 Sections 2.1.1 & 3.2.1.1 and Annex 8
1.11 (1)		Res. 236 (WRC-15)	WP 5A	Doc. 5A/298 Sections 3.4, 3.7 & 4 and Annexes 6 (c), 7 (b) & 16
1.12 (1)		Res. 237 (WRC-15)	WP 5A	Doc. 5A/298 Sections 3.7 & 4 and Annexes 8 (c), 9 (b) & 30
1.13 (2)		Res. 238 (WRC-15)	TG 5/1 (2)	Doc. 5-1/15 and its annexes
...				
9.1.7 ...	9.1.7 (6)	Res. 958 (WRC-15)	WP 1B	Doc. 1B/123 Section 2.1.1 and Annexes 7 (c), 8 (b), 9, 10 & 11 <u>Circular Letter 1/LCCE/99</u> (Questionnaire)



WRC Regional Preparation

Pursuant to [Resolution 72 \(Rev. WRC-07\)](#)

See details @ www.itu.int/go/wrc-19-regional

Regional preparation for WRC-19

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

SHARE



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)

▶ Resolution 72 (Rev. WRC-07)

Asia-Pacific Telecommunity (APT)

2nd APG-19: 17-21 July 2017, Bali, Indonesia

African Telecommunications Union (ATU)

2nd APM-19: 7-11 August 2017, Dakar, Senegal

Inter-American Telecommunication Commission (CITEL)

XXIX PCC.II: 27 - 30 June 2017, Orlando, USA

Arab Spectrum Management Group (ASMG)

22nd ASMG: [2017]

European Conference of Postal and Telecommunications Administrations (CEPT)

4th CPG-19: 4-7 July 2017

Regional Commonwealth in the Field of Communications (RCC)

3rd RCC WG WRC-19/RA-19: 10-13 April 2017,
Bishkek, Kyrgyz Republic



ITU Inter-Regional Workshops on WRC-19 Preparation

1st Workshop
[21-22]*
Nov. 2017

- 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-19
 - ⇒ Presentation of the organization, preliminary views, draft priorities and positions of the regional groups

* Subject to the confirmation of the dates of the ITU-R SG 5 meeting currently planned on 20 Nov. 2017 **

2nd Workshop
[Q4 2018]**

- To be scheduled few months prior to CPM19-2
 - ⇒ Presentation of the Draft CPM Report to WRC-19 (explanation of the draft Methods to satisfy the WRC-19 agenda items)
 - ⇒ Presentation and review of the regional groups' draft views, positions and common proposals

3rd Workshop
[Q3 2019]**

- To be scheduled few months prior to WRC-19
 - ⇒ Presentation of the CPM & Dir. Reports to WRC-19
 - ⇒ Presentation and review of the regional groups' draft views, positions and common proposals

** Updated information on meeting dates to be provided later on at: www.itu.int/en/events/Pages/Calendar-Events.aspx?sector=ITU-R



Thank you for your attention

Additional slides on

- **Agenda for WRC-19**
- **Radio services and other abbreviations**



Agenda for the 2019 World Radiocommunication Conference

**WRC
2019**



Broadband applications in the MS (WRC-19 agenda items 1.13 and 1.16)

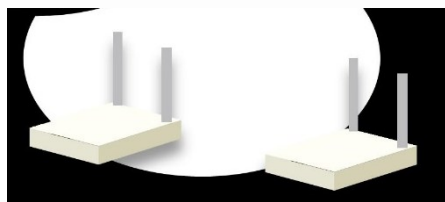
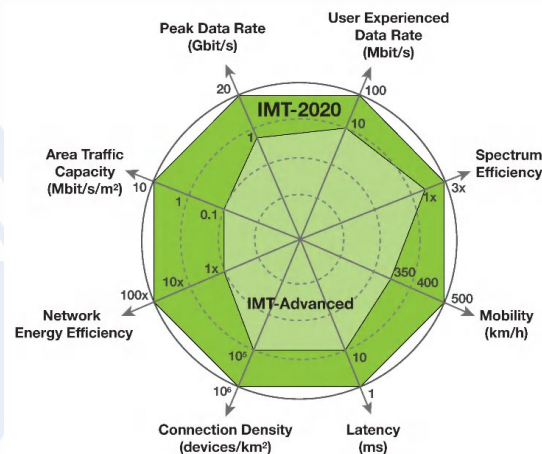
The following bands, which are already allocated to mobile, will be studied with a view to an **IMT-2020** identification:

- 24.25 – 27.5 GHz
- 37 – 40.5 GHz
- 42.5 – 43.5 GHz
- 45.5 – 47 GHz
- 47.2 – 50.2 GHz
- 50.4 – 52.6 GHz
- 66 – 76 GHz
- 81 – 86 GHz

The following bands will also be studied, although they do not currently have global mobile allocations:

- 31.8 – 33.4 GHz
- 40.5 – 42.5 GHz
- 47 - 47.2 GHz

▶ **Res. 238 (WRC-15)**



Appropriate regulatory actions, incl. additional MS allocations, for **WAS/RLAN** will be studied in the bands between 5 150-5 925 MHz

▶ **Res. 239 (WRC-15)**



Other LMS & FS Systems & Apps. (WRC-19 agenda items 1.14 and 1.15)



Studies for considering **appropriate regulatory actions for HAPS***, within existing FS alloc. at 47.2-47.5, 47.9-48.2 & 31.0-31.3**/27.9-28.2** GHz (**outside Reg. 2, +5 ADMs @6.5/6.5 MHz) or

study new bands: 38-39.5 GHz & 21.4-22*** & 24.25-27.5*** GHz
(*high-altitude platform stations (HAPS); *** in Region 2)

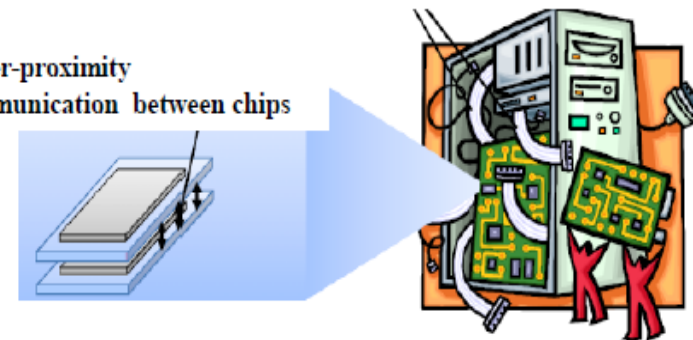
▶ **Res. 160 (WRC-15)**

Studies towards an **identification** for use by administrations for **LMS and FS applications** operating in the frequency range **275-450 GHz**

▶ **Res. 767 (WRC-15)**

Super-proximity communication between circuit board

Super-proximity communication between chips



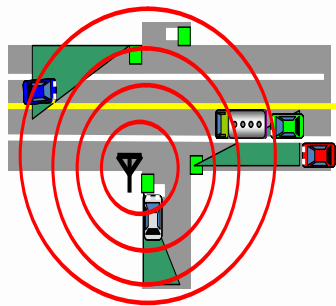


New transport systems in the MS (WRC-19 agenda items 1.11 & 1.12)



Studies to take necessary actions, as appropriate, to facilitate **global or regional harmonized bands to support railway radiocommunication systems** between train & trackside within existing MS allocations

▶ **Res. 236 (WRC-15)**



Studies to consider possible **global or regional harmonized bands**, to the maximum extent possible, for **implementation of evolving ITS*** within existing MS allocations

▶ **Res. 237 (WRC-15)**

* Intelligent Transport systems (ITS)



Maritime issues

(WRC-19 agenda items 1.8, 1.9.1 & 1.9.2)



Studies to consider possible **regulatory actions** to **support GMDSS** (Global Maritime Distress and Safety Systems) **modernization** and the introduction of **additional satellite systems** into the GMDSS

▶ **Res. 359 (Rev.WRC-15)**



Studies to consider **regulatory actions** within the band **156-162.05 MHz** for **autonomous maritime radio devices** to protect the GMDSS and AIS (Automatic Identification System)

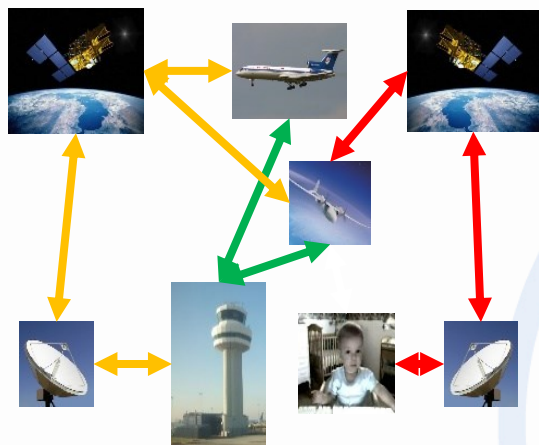
▶ **Res. 362 (WRC-15)**

Studies to consider RR MODs, including **new MMSS (E-s & s-E)** allocations, preferably **within 156.0125-157.4375 MHz & 160.6125-162.0375 MHz** of RR App. 18, to **enable a new VDES** (VHF data exchange system) **satellite component**

▶ **Res. 360 (Rev.WRC-15)**



Aeronautical and Amateur issues (WRC-19 agenda items 1.10 & 1.1)



Studies to consider **spectrum needs & regulatory provisions for introduction and use of the GADSS** (Global Aeronautical Distress and Safety System)

▶ **Res. 426 (WRC-15)**

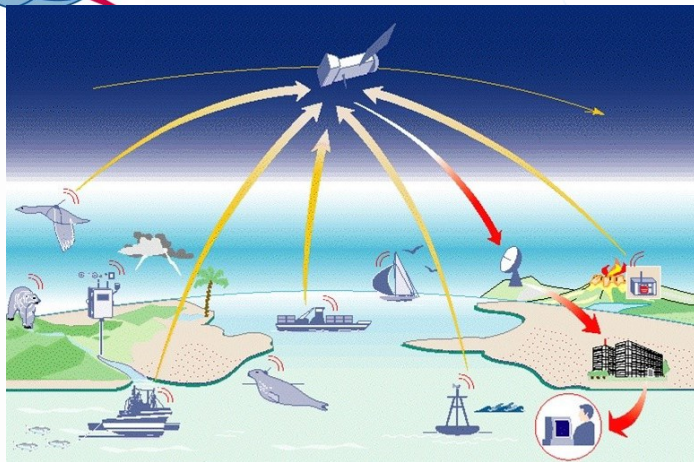


Studies for consideration of an allocation of the band **50-54 MHz to the amateur service in Region 1** (towards a worldwide allocation for harmonized weak signal communications) ▶ **Res. 658 (WRC-15)**



Science issues

(WRC-19 agenda items 1.2, 1.3 and 1.7)



Studies to consider **in-band power limits** for earth stations in **MetSat & EESS @ 401-403 MHz** for DCS* and in the **MSS @ 399.9-400.05 MHz**

▶ **Res. 765 (WRC-15)**

Studies to consider possible upgrading of the **2ndary MetSat (s-E)** allocation to **1^{mary}** status & a possible **1^{mary} EESS (s-E)** allocation @ **460-470 MHz** for DCS

▶ **Res. 766 (WRC-15)**



Study spectrum needs for **TT&C in the SOS** for non-GSO satellites with short duration missions & consider, if necessary, new SOS allocations

▶ **Res. 659 (WRC-15)**

* Data Collection Systems (DCS) are used to monitor and predict climate change, monitor oceans, weather and water resources, weather forecasting and assisting in protecting biodiversity, improving maritime security



© CCRS / CCT

Satellite issues

(WRC-19 agenda items 1.4, 1.5, 1.6 & 7)

Consider results of studies on review, and possible revision if necessary, of RR App. 30 Annex 7 limitations, incl. orbital position limitations

▶ **Res. 557 (WRC-15)**

Studies to consider the use of the bands 17.7-19.7 GHz (s-E) and 27.5 29.5 GHz (E-s) by earth stations in motion communicating with GSO space stations in the FSS and take appropriate action ▶ **Res. 158 (WRC-15)**



Studies on development of a regulatory framework for non-GSO FSS systems that may operate in the bands 37.5-39.5 GHz (s-E), 39.5-42.5 GHz (s-E), 47.2-50.2 GHz (E-s) and 50.4-51.4 GHz (E-s)

▶ **Res. 159 (WRC-15)**

Satellite Regulatory issues

▶ **Res. 86 (Rev.WRC-07)**





Radio service abbreviations (1/2)

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



Radio service abbreviations (2/2)

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



Other abbreviations (1/3)

Abbreviations	Description	RR Nos.
ADS-B	Automatic Dependent Surveillance-Broadcast	-
AIS	Automatic Identification System	-
Art. or AP/App	An Article or an Appendix of the RR	-
BB	Broadband	-
BIPM	International Bureau of Weights and Measures	-
(D)BiU	(Date of) Bringing Into Use	-
BR	ITU Radiocommunication Bureau	-
DCS	Data Collection System	-
E-s, s-E	Earth-to-space, space-to-Earth	-
ES	Earth station	No. 1.63
ESIM	ES In Motion	-
ESV	ES on board Vessels	-
GE06	Geneva 2006	-
GFT	Global Flight Tracking	-



Other abbreviations (2/3)

Abbreviations	Description	RR Nos.
GMDSS	Global Maritime Distress and Safety System	-
GSO	Geostationary-Satellite Orbit	No. 1.190
HAPS	High Altitude Platform Station	No. 1.66A
HF VHF UHF	High Frequency: 3 to 30 MHz Very High Frequency: 30 to 300 MHz Ultra High Frequency: 300 to 3000 MHz	No. 2.1
ICAO	International Civil Aviation Organization	-
IMT	International Mobile Telecommunications	-
ITS	Intelligent Transport Systems	-
ITU	International Telecommunication Union	-
ITU-R	ITU Radiocommunication Sector	-
PPDR	Public Protection and Disaster Relief	-
SARPs	Standards and recommended practices	Nos. 5.2 to 5.9
R1, R2, R3	RR Regions 1, 2 or 3	Nos. 5.2 to 5.9



Other abbreviations (3/3)

Abbreviations	Description	RR Nos.
Rec. / Rap.	Recommendation / Report	-
Res.	Resolution	-
RLAN	Radio Local Area Network(s)	-
RR	ITU Radio Regulations	-
RRB	ITU Radio Regulations Board	-
TT&C	Telemetry, Tracking and Command	(See Nos. 1.131-1.136)
UA / UAS	Unmanned Aircraft / Unmanned Aircraft Systems	-
UTC	Coordinated Universal Time	No. 1.14
VDES	VHF Data Exchange System	-
VSAT	Very Small Aperture Terminal	-
WAIC	Wireless Avionics Intra-Communications	-
WAS	Wireless Access System(s)	-
WRC	World Radiocommunication Conference	-