



ITUEvents

# ITU World Radiocommunication Seminar 2018

3-7 December 2018  
Geneva, Switzerland

[www.itu.int/go/ITU-R/WRS-18](http://www.itu.int/go/ITU-R/WRS-18)



Organised by:



## World Radiocommunication Conference (WRC)

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Counsellor, ITU-R Study Group 1 &  
Conference Preparatory Meeting for WRC  
Study Groups Department  
Radiocommunication Bureau  
International Telecommunication Union  
**Nelson Malaguti**



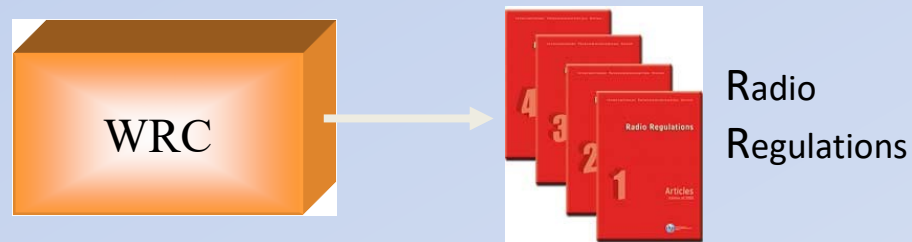
# Some main WRC Objectives

- 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 for 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



## ✓ Adopts Resolutions

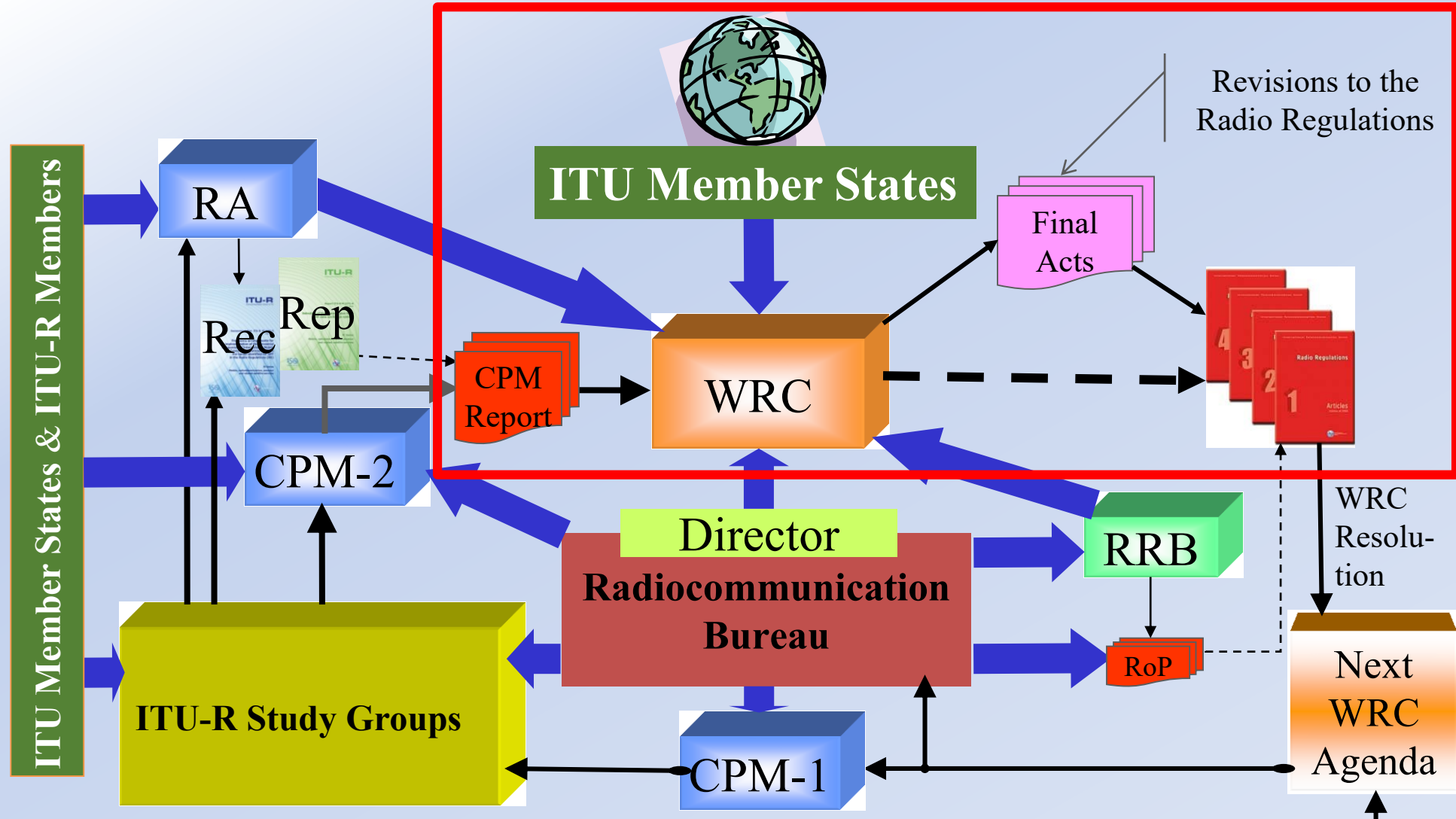
## ✓ Held every 3-4 years (CS\* 90)

## ✓ 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](http://www.itu.int/pub/S-CONF-PLEN))



# The WRC Cycle



**RRB:** Radio Regulations Board  
**RA:** Radiocommunication Assembly  
**WRC:** World Radiocommunication Conference  
**CPM:** Conference Preparatory Meeting  
**Rec:** ITU-R Recommendation  
**RoP:** Rules of Procedure

**Next WRC Agenda**  
 Adopted by ITU Council





# The WRC Process





# Main Steps towards WRC-19

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

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

**ITU Council-16: WRC-19 agenda & dates in **Res. 1380** with MOD venue @ C-17**

Text of Res. 1380 (C-17) at [www.itu.int/md/S17-CL-C-0141](http://www.itu.int/md/S17-CL-C-0141), see also the [WRC-19 booklet](#)  
CL No. 17/52 of 18 Dec. 2017 confirmed **RA-19 & WRC-19 venue in Sharm el-Sheikh (Egypt)**

**2<sup>nd</sup> Session of Conference Preparatory Meeting: CPM19-2**  
at CICG and ITU in Geneva from **18 to 28 February 2019** ([invitation in CA/241](#))  
(further information on the CPM webpage: [www.itu.int/go/ITU-R/CPM](http://www.itu.int/go/ITU-R/CPM))

**Final regional group meetings & final national preparations**  
**Member States' proposals to WRC-19**

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



## WRC-19 standing agenda items

1. List of **specific agenda items** from 1.1 to 1.16 (see next slide)
2. **Incorporated by reference** in the RR of revised **ITU-R Recommendations**
3. **Consequential RR changes & amendments** as decided by the WRC
4. **Review of Resolutions and Recommendations of previous WRCs**
5. Review of the **Report from the Radiocommunication Assembly**
6. Identify items requiring **urgent action by ITU-R SGs** for the next WRC
7. Review the **RR procedures** related to **coordination-notification-registration of satellite network** frequency assignments, to facilitate rational, efficient, and economical use of radio frequencies and any associated orbits, including the geostationary-satellite orbit;
8. Consider **deletion of country names in footnotes** of RR Art. 5 TFA
9. Consider and approve the **BR Director's Report** on:
  - 9.1 ITU-R activities (see 2<sup>nd</sup> next slide);
  - 9.2 Difficulties/Inconsistencies in RR;
  - 9.3 Res.80
10. **Agenda Next WRC** ([in 2023]) & preliminary agenda subsequent WRC

# Topics on the WRC-19 Agenda

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

- 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)



**Aeronautical  
(GADSS needs)**

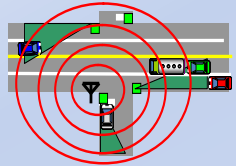


1.10

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



- 1.4, 1.5, 1.6



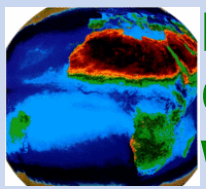
**New Transport  
systems**

(harmonized bands  
for railways, ITS)

- 1.11
- 1.12



- 1.2
- 1.3
- 1.7



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



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

- 7
- 8

➤ See additional information in the slides attached to this presentation

*Note: WRC-19 agenda item numbers indicated in italic*





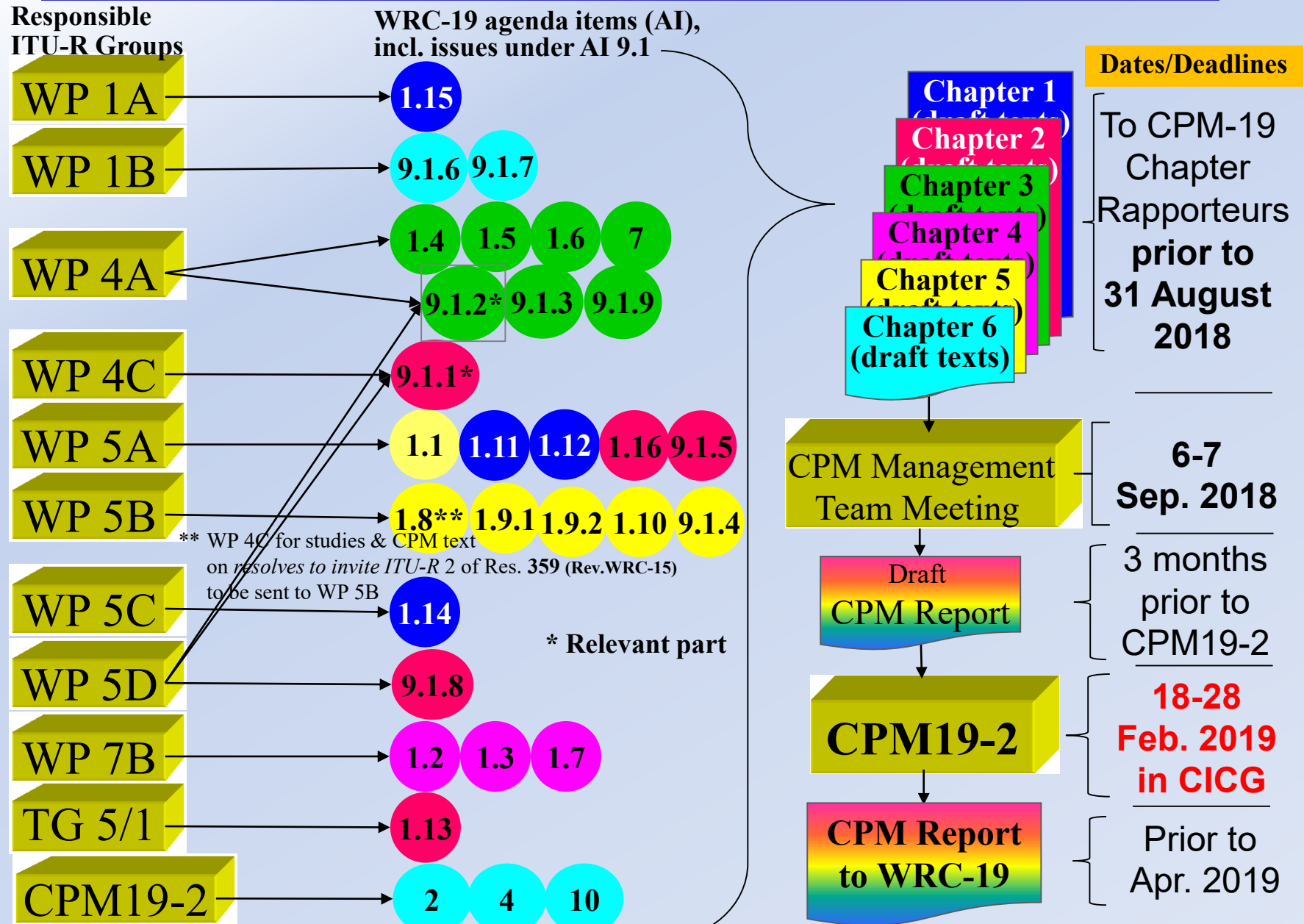
# Other ITU-R Studies to be reported to for WRC-19 (WRC-19 agenda item 9.1)

- 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)

\* Incorporation  
by Reference



# Summary of CPM Report Preparation





# Responsible Groups activities

- ⇒ **Examine contributions from the membership**
- ⇒ **Development of draft CPM texts**
  - **Carry out technical studies**
  - **Development of necessary ITU-R Recommendations and Reports**
  - **Propose method(s) of satisfying the WRC-15 Agenda Items**
  - **Prepare preliminary draft examples of regulatory texts**
- ⇒ **Ensure necessary coordination with the concerned groups (contributing/interested working parties)**



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

## Chapter N Agenda Item 1.XY

[Relevant WRC Resolutions if any]

**N/1.XY/1 Executive Summary**

**N/1.XY/2 Background**

**N/1.XY/3 Summary and Analysis of the results of ITU-R studies, including a list of relevant ITU-R Recommendations**

**N/1.XY/4 Method(s) to satisfy the Agenda Item\*\***

**N/1.XY/5 Regulatory and procedural considerations\*\***

\*\* Not applicable to issues under agenda item 9.1, instead: **N/9.1.X/4 Conclusions**





# Draft Methods to satisfy the WRC-19 AIs

Draft CPM Chapter	5		4		3		4	5			1			
Agenda items	<u>1.1</u>	<u>1.2</u>	<u>1.3</u>	<u>1.4</u>	<u>1.5</u>	<u>1.6</u>	<u>1.7</u>	<u>1.8</u>		<u>1.9.1</u>	<u>1.9.2</u>	<u>1.10</u>	<u>1.11</u>	<u>1.12</u>
Issues/items/bands	-	-	-	-	-	-	-	A	B	A	-	-	-	-
Draft Method(s)	A	A	A	A	A	A	A	A1	B1	A	A	A	A	A
	B1	B	B	B	B	B	B1	A2	B2	B1	B	B	B	B
	B2	C	-	C	-	C	B1	-	B3	B2	C	-	C	C
	C	D	-	-	-	D	C	-	B4	B3	D	-	-	-
	D	E	-	-	-	-	-	-	B5(a)	-	E	-	-	-
-	F	-	-	-	-	-	-	B5(b)	-	F	-	-	-	

Draft CPM Chapter	2												1									2						
Agenda items	<u>1.13</u>												<u>1.14</u>									<u>1.15</u>	<u>1.16</u>					
Issues/items/bands	A	B	C	D	E	F	G	H	I	J	K	L	1	2	3	4	5	6	7	8	9	-	A	B	C	D	E	
Draft Method(s)	A1	B1	C1	D1	E1	F1	G1	H1	I1	J1	K1	L1	A	A	A	A	A	A	A	A	A	A	A	A1	B	C	D1	E
	A2 (Alt. 1)	-	C2 (Alt. 1)	D2 (Alt. 1)	E2 (Alt. 1)	F2 (Alt. 1)	G2 (Alt. 1)	G2 (Alt. 1)	I2 (Alt. 1)	J2 (Alt. 1)	K2 (Alt. 1)	L2 (Alt. 1)	B1	-	-	-	-	B1	B1	-	B1	B	A2	-	-	D2	-	
	A2 (Alt. 2)	-	C2 (Alt. 2)	D2 (Alt. 2)	E2 (Alt. 2)	F2 (Alt. 2)	G2 (Alt. 2)	G2 (Alt. 2)	I2 (Alt. 2)	J2 (Alt. 2)	K2 (Alt. 2)	L2 (Alt. 2)	-	-	B2	-	B2	-	-	B2	-	C	A3	-	-	D3	-	
	(Cond. a to g) (+Options)	-	(Cond. a to e) (+Options)	(Cond. a to c) (+Options)	(Cond. a to c) (+Options)	(Cond. a to b) (+Options)	(Cond. a to b) (+Options)	(Cond. a to d) (+Options)	(Cond. a to c) (+Options)	(Cond. a to c) (+Options)	(Cond. a to c) (+Options)	(Cond. a to e) (+Options)	-	-	-	B3	-	-	-	-	-	D	A4	-	-	-	-	
	-	-	-	-	-	-	-	-	-	J3	(+Options)	(+Options)	C	C	-	-	-	C	C	-	C	E	-	-	-	-	-	

Draft CPM Chapter	3															
Agenda items	<u>Z</u>															
Issues/items/bands	<u>A</u>		<u>B</u>	<u>C</u>			<u>D</u>	<u>E</u>	<u>F</u>	<u>G</u>	<u>H</u>	<u>I</u>	<u>J</u>	<u>K</u>	<u>L</u>	<u>M</u>
Sub-issues	BiU	Milestone-based approach with alternatives & options	-	7 sub-issues			-	-	-	-	-	-	-	-	-	-
Draft Method(s)	A1		B1	One method for each sub-issues C1, C2, C3, C4, C5, C6, C7			D1	One	F1	G1	One	One	J1	One	One	One
	A2		B2	D2	-	F2	G1	-	-	J2	-	-	-	-	-	
	A3		-	D3	-	-	G3	-	-	-	-	-	-	-		



# Second Session of the CPM (CPM19-2)

(see [Res. ITU-R 2-7](#), Web page at: [www.itu.int/ITU-R/go/rcpm](http://www.itu.int/ITU-R/go/rcpm))

Geneva, CICG & ITU HQ, **18 – 28 February 2019**

- ⇒ **Prepare consolidated CPM Report to WRC-19, using:**
  - ✓ **Draft CPM Report in [Doc. CPM19-2/1](#)**  
**(Now available in all six ITU languages!)**
  - ✓ **Contributions from ITU-R membership **deadlines** for submission:**
    - **18 December 2018** if translation is required
    - **4 February 2019, 1600 hours UTC in all cases**
  - ✓ **BR Director's reports on agenda items 2 and 4**
- ⇒ **Consider also the preliminary draft of the BR Director's Report to WRC-19**
- ⇒ **CPM19-2 meeting structure should be based on the structure of the draft CPM Report**



# 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 <sup>st</sup> )	WPs 7B & 7C (1 <sup>st</sup> ) WP 4C+WP 4A (1 <sup>st</sup> ) WPs 5A, 5B & 5C (1 <sup>st</sup> ) TG 5/1 (1 <sup>st</sup> ) WPs 1A & 1B (1 <sup>st</sup> ) WP 5D (2 <sup>nd</sup> )	WP 4C+WP 4A (2 <sup>nd</sup> ) CPM-19 Steering	WP 5D (3 <sup>rd</sup> ) WPs 7B & 7C (2 <sup>nd</sup> ) WPs 5A, 5B & 5C (2 <sup>nd</sup> ) WPs 1A & 1B (2 <sup>nd</sup> )
2017	WP 5D (4 <sup>th</sup> )	WPs 7B & 7C (3 <sup>rd</sup> ) WP 4C+WP 4A (3 <sup>rd</sup> ) TG 5/1 (2 <sup>nd</sup> ) WPs 5A, 5B & 5C (3 <sup>rd</sup> ) WPs 1A & 1B (3 <sup>rd</sup> ) WP 5D (5 <sup>th</sup> )	TG 5/1 (3 <sup>rd</sup> )	WP 5D (6 <sup>th</sup> ) WP 4C+WP 4A (4 <sup>th</sup> ) WPs 7B & 7C (4 <sup>th</sup> ) WPs 5A, 5B & 5C (4 <sup>th</sup> ) 1 <sup>st</sup> WS on WRC-19 WPs 1A & 1B (4 <sup>th</sup> )
2018	TG 5/1 (4 <sup>th</sup> ) WP 5D (7 <sup>th</sup> ) WP 4C+WP 4A (5 <sup>th</sup> ) RAG (25 <sup>th</sup> )	TG 5/1 (5 <sup>th</sup> ) WPs 7B & 7C (5 <sup>th</sup> ) WPs 5A, 5B & 5C (5 <sup>th</sup> ) WPs 1A & 1B (5 <sup>th</sup> ) WP 5D (8 <sup>th</sup> ) WP 4C+WP 4A (6 <sup>th</sup> )	TG 5/1 (6 <sup>th</sup> ) CPM-19 Management Team	WPs 7B & 7C (6 <sup>th</sup> ) WP 5D (9 <sup>th</sup> ) WPs 5A, 5B & 5C (6 <sup>th</sup> ) WP 1B (6 <sup>th</sup> ) 2 <sup>nd</sup> WS on WRC-19 WRS-18
2019	WP 5D (10 <sup>th</sup> ) CPM19-2	[WPs 5A, 5B & 5C (7 <sup>th</sup> )] [SG 3*] [WPs 1A (6 <sup>th</sup> ) & 1B (7 <sup>th</sup> )] [SG 1*] [WPs 7B & 7C (7 <sup>th</sup> )] [SG 7*] [WP 4C+WP 4A (7 <sup>th</sup> )] [SG 4*] * Last meeting of Study Groups before RA-19	[WP 5D (11 <sup>th</sup> )] [SG 5*] [SG 6*] [3 <sup>rd</sup> WS on WRC-19]	RA-19 WRC-19 CPM 23-1

[ ... ] = planned meetings

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

WRS = ITU World Radiocommunication Seminar

Detailed information online at: [www.itu.int/en/events/Pages/Calendar-Events.aspx?sector=ITU-R](http://www.itu.int/en/events/Pages/Calendar-Events.aspx?sector=ITU-R)



# Regional preparation for WRCs

## ✓ Resolution 80 (Rev. Marrakesh, 2002)

“World radiocommunication conference process”

Administrations of ITU membership encouraged to:

- **Plan WRC preparations** on the basis of 2 consecutive WRCs
- **Harmonize** regional common **proposals** for WRC
- Formally/informally **collaborate** with a view to **resolving differences** on WRC agenda items (a.i.)
- **Indicate** for proposed WRC a.i., the **possible financial implications** on the BR (ITU-R studies and BR implementation)

## ✓ Resolution 72 (Rev. WRC-07)

“World and regional preparations for world radiocommunication conferences”

- *resolves* to **invite the regional groups to continue** their **preparations for WRCs**, including the possible convening of joint meetings of regional groups formally and informally





# Regional preparation for WRC-19

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

See details @ [www.itu.int/go/wrc-19-regional](http://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)**

4<sup>th</sup> APG-19: 7-12 Jan. 2019, Busan, KOR

**African Telecommunications Union (ATU)**

3<sup>rd</sup> APM-19: 17-21 Sep. 2018, Cairo, EGY

**Inter-American Telecommunication Commission (CITEL)**

32<sup>nd</sup> PCC.II: 3-7 Dec. 2018, Brasilia, B

**Arab Spectrum Management Group (ASMG)**

24<sup>th</sup> ASMG: 9-13 Dec. 2018, Amman, JOR

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

7<sup>th</sup> CPG-19: 27-30 Nov. 2018, Hilversum, HOL

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

7<sup>th</sup> RCC WG: 21-25 Jan. 2019, Yerevan, ARM

Informal Group (Chairman: Mr. T. Al Awadhi)



# ITU Inter-Regional Workshops on WRC-19 Prep.

**1<sup>st</sup> Workshop  
on 21-22  
Nov. 2017**

- 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

(Website at: [www.itu.int/go/ITU-R/wrc-19-irwsp-17](http://www.itu.int/go/ITU-R/wrc-19-irwsp-17), incl. [Webcast archives](#) and [Input Documents](#))

**2<sup>nd</sup> Workshop  
20-22  
November  
2018**

[Webpage](#)

- 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

(Website at: [www.itu.int/go/ITU-R/wrc-19-irwsp-18](http://www.itu.int/go/ITU-R/wrc-19-irwsp-18), incl. [Webcast archives](#) and [Input Documents](#))

**3<sup>rd</sup> Workshop  
[4-6 Sep.  
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

**Thank you!**

## **Additional slides on**

- **WRC-19 Agenda items**
- **WRC-23 Preliminary agenda items**
- **Radio services abbreviations (other abbreviations are provided in the [draft CPM Report](#))**

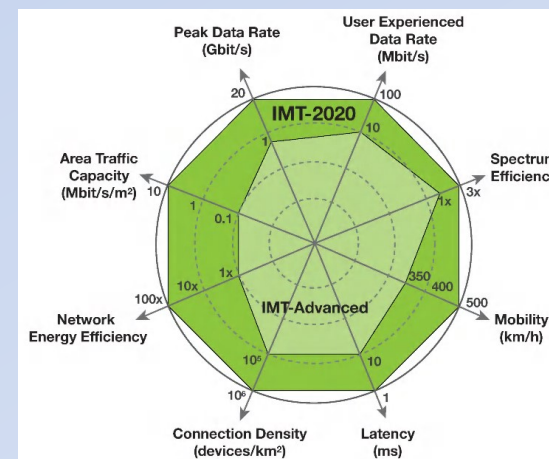
# Broadband applications in the MS (WRC-19 agenda items 1.13 and 1.16)

Consider **IMT identification** in the following bands, which **have allocations to the mobile service on a primary basis**:

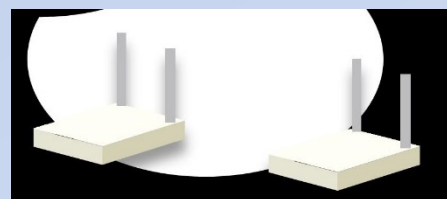
- 24.25 – 27.5 GHz
- 37 – 40.5 GHz
- 42.5 – 43.5 GHz
- 45.5 – 47 GHz
- 47.2 – 50.2 GHz
- 50.4 – 52.6 GHz
- 66 – 76 GHz
- 81 – 86 GHz

And also in the following bands which **may require additional allocations** to the MS on a primary basis:

- 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** are being 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)



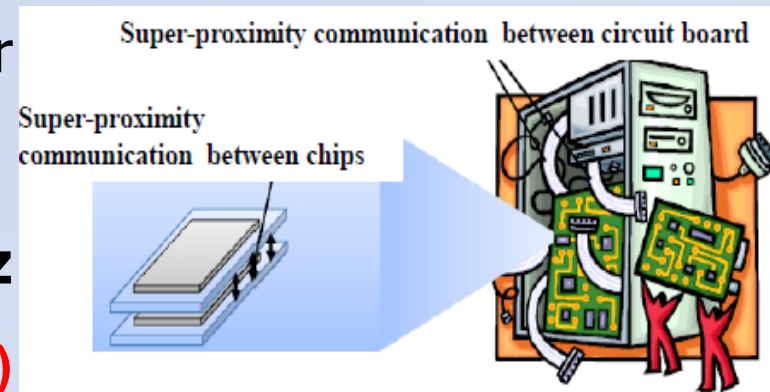
Studies for considering **appropriate regulatory actions for HAPS\***, within existing FS alloc. at 47.2-47.5, 47.9-48.2 & 31.0-31.3\*\*/27.9-28.2\*\* GHz (\*\*outside Reg. 2, +5 ADMs @6.5/6.5 MHz) or

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)

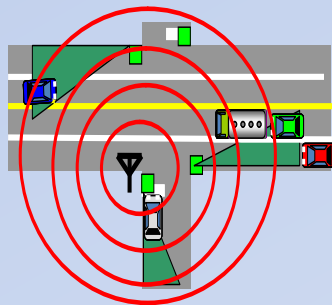


# New transport systems in the MS (WRC-19 agenda items 1.11 & 1.12)



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)



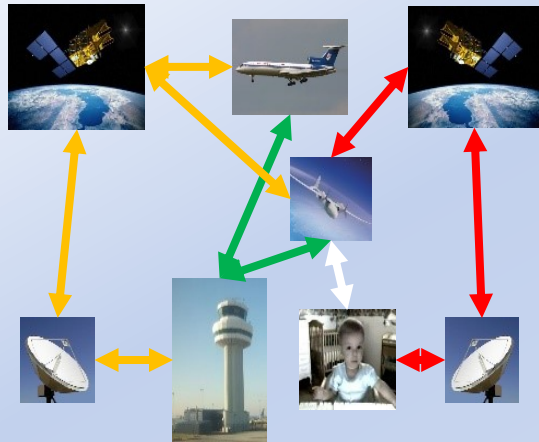
Studies to consider possible **regulatory actions** to **support GMDSS** (Global Maritime Distress and Safety Systems) **modernization** and the introduction of **additional satellite systems** into the GMDSS ▶ **Res. 359 (Rev.WRC-15)**



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)**

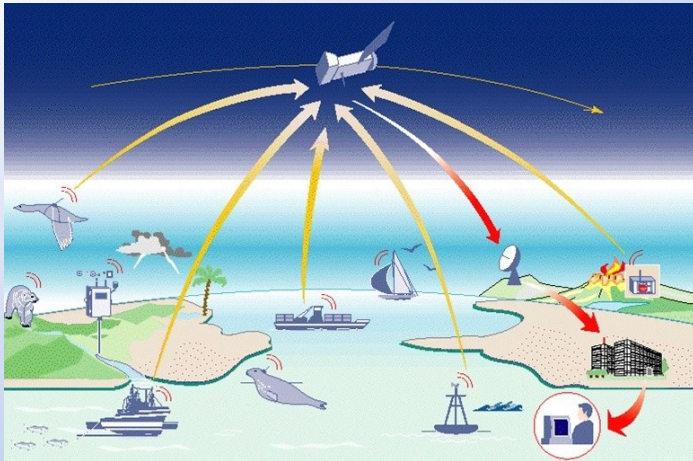


Studies for consideration of an allocation of the band **50-54 MHz to the amateur service in Region 1** (towards a worldwide allocation for harmonized weak signal communications) ► **Res. 658 (WRC-15)**



# 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 **2<sup>nd</sup>ary MetSat (s-E)** allocation to **1<sup>mary</sup>** status & a possible **1<sup>mary</sup> EESS (s-E)** allocation @ **460-470 MHz** for DCS  
▶ **Res. 766 (WRC-15)**



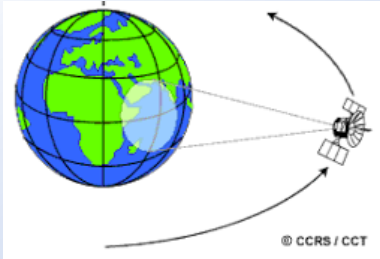
Study spectrum needs for **TT&C in the SOS** for non-GSO satellites with short duration missions & consider, if necessary, new SOS allocations  
▶ **Res. 659 (WRC-15)**

\* 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



# 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)**



## Satellite regulatory issues (WRC-19 agenda item 7 – part 1)

### ✓ **Thirteen (13) issues identified under AI 7:**

- A. Bringing into use of frequency assignments to all non-GSO systems, and consideration of a milestone-based approach for the deployment of non-GSO systems in specific frequency bands and services**
- B. Application of coordination arc in the Ka-band, to determine coordination requirements between the FSS and other satellite services**
- C. Issues for which consensus was achieved in ITU-R and a single method has been identified**
- D. Ident. specific sat. networks & systems to coordinate with, under RR Nos. 9.12, 9.12A and 9.13**
- E. Resolution related to RR Appendix 30B**
- F. Measures to facilitate entering new assignments into the RR App 30B List**



## Satellite regulatory issues (WRC-19 agenda item 7 – part 2)

- G. Updating ref. sit. for networks in RR App. 30 & 30A after conversion into definitive of provisionally recorded assignments**
- H. Modifications to RR Appendix 4 items to be provided for non-geostationary satellite systems not subject to the procedures of Section II of RR Article 9**
- I. Additional RR Appendix 4 data items to be provided for non-geostationary satellite systems with multiple orbital planes**
- J. Pfd limit in Section 1, Annex 1 of RR Appendix 30**
- K. Difficulties for Part B examinations under § 4.1.12 or 4.2.16 of RR Appendices 30 and 30A and § 6.21 c) of RR Appendix 30B**
- L. Update to RR Appendix 4 data elements required for RR Article 22 epfd verification after revision of Recommendation ITU-R S.1503**
- M. Simplified regulatory regime for non-GSO satellite systems with short-duration missions**



# Review of RR Art. 5 Country footnotes (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)**
- **Last two WRCs adopted a similar approach:**  
(see WRC-15 Doc. 142 (Rev.1) at: [www.itu.int/md/R15-WRC15-C-0142](http://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 1<sup>st</sup> 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 2<sup>nd</sup> week, and considered under AI 8



# 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 → WP 5B
- 2.2 Res. 656 – Possible new allocations for EESS (active) for spaceborne radar sounders @ 45 MHz
- 2.3 Res. 657 – Spectrum needs & designation of radio services for space weather sensors → WP 7C
- 2.4 Res. 161 – Possible new allocations for FSS @ 37.5-39.5 GHz → 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 → none



# 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>