

ITUWRC
SHARM EL-SHEIKH2019
28 October - 22 November
Sharm El-Sheikh, Egypt

The World Radiocommunication Conferences 2019 and 2023

Key Outcomes for Space Services

Presentation to the STSC 57th
February 2020, Vienna, Austria



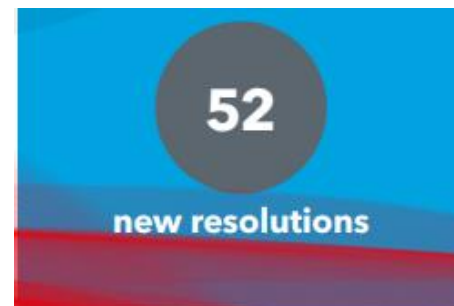
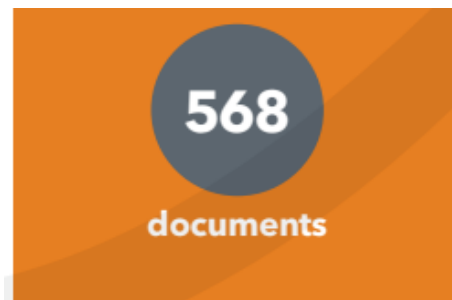
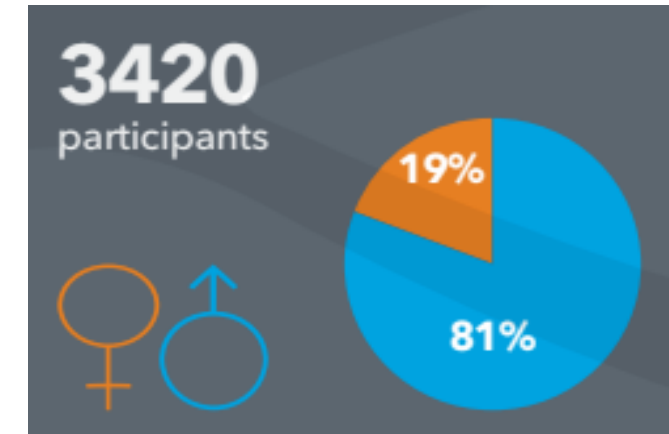
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WRC-19 in numbers





UNOOSA Statement to the 5th Plenary Meeting

by Mr Niklas Hedman, Chief of the Committee, Policy and Legal Affairs Section

- Common commitment to building capacity for all Member States, especially developing countries and States that have recently joined the space community;
- Continue their fruitful cooperation in the years to come.

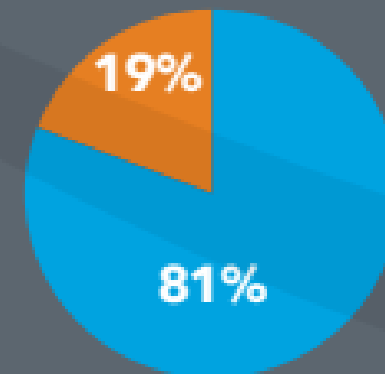


Gender Declaration

WRC-19 declared
the commitment of the Sector
to gender equality and gender balance.

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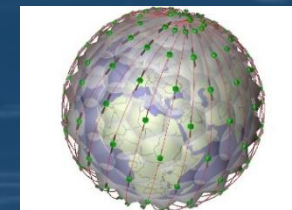
participants



WRC-19 agenda items

a.i. 1.6 New constellations; New regulations

a.i. 7 issue A Mission's constellations milestones



a.i. 1.7 Multiplication of small satellites

a.i 7 issue M Short duration missions



a.i. 1.4 New orbital slots opened up for broadcasting satellites with a priority mechanism for developing countries



a.i 7 issue E Special procedure to provide priority to fixed satellite services

For new non-GSO constellations using the 50/40 GHz frequency bands - WRC-19 a.i. 1.6

WRC-19 developed a new regulatory framework (technical, operational and regulatory)

Ensuring compatibility and protection needed with systems already using the bands:

- GSO fixed-satellite services (FSS)
- broadcasting-satellite service (BSS)
- mobile-satellite service (MSS)

Using **aggregate and single-entry link degradation limits** produced at any point in the GSO by emissions from all the earth stations of a non-GSO system in the fixed-satellite service or into any geostationary FSS earth station

→ Why is WRC-19 a.i. 1.6 important?

Advances in satellite design, manufacturing and launch service capabilities have enabled the deployment of non-GSO FSS constellations.

Additionally, the **advances in antenna** and terminal technology have enabled the development of the 50/40 GHz frequency bands for both GSO FSS/BSS and non-GSO FSS.

The new framework creates certainty among potential operators of non-GSO satellite systems in these bands.

Members agree to new milestones for non-geostationary satellite deployment- WRC-19 a.i. 7(A)

After the end of the current regulatory period for bringing into use, the constellation **deployment** will have to be of minimum:

10% within 2 years,

50% within 5 years, and

100% completely deployed within 7 years.

→ Why is WRC-19 a.i. 7(A) important?

It ensures that the **Master International Frequency Register** reasonably reflects the actual deployment of such NGSO satellite systems.

Ensuring a negotiated balance between :

- the prevention of radio-frequency spectrum warehousing,
- the proper functioning of coordination mechanisms, and
- the operational requirements related to the deployment of NGSO systems.

Further studies by ITU required on:

- tolerances for certain orbital characteristics of NGSO space stations, and
- for the possible development of post-milestone procedures.

Short duration mission special needs

- WRC-19 a.i. 1.7

Definition = small satellites with a limited period of validity

WRC-19 allocated the spectrum needs for telemetry, tracking and command in the space operation

To be noted that, in addition, ITU developed new Membership rules to target SMEs and adapt their needs

Short duration mission special needs

- WRC-19 a.i. 7(M) Resolution COM5/5

Simplified regulatory regime for non-GSO satellite systems with short-duration missions:

- Lifetime < 3 years and not replaced
- Maximum 10 satellites in a system
- No notification before bringing into use (No. 11.47)
- No suspension (No. 11.49)

→ Why are WRC-19 a.i. 1.7 and 7(M) important?

- Small satellites should apply the Radio Regulations
- To engage operators having limited budget, limited knowledge of the international space law/regulations, Radio Regulations shall be adapted to their specific needs
- Concern about risk of signal interference is also much lower than for a GSO satellite

Equitable access to spectrum and orbit resources - WRC-19 a.i. 1.4

1/ Broadcasting Satellite Service and feeder links a priori Plans on Geostationary Orbit Appendices 30/30A of book 2 Radio Regulations

New orbital slots opened up for broadcasting satellites, and

A “special procedure”, with temporary regulatory measures, which can only be applied once, will **provide priority to countries** that:

- have no assignments in the List or submitted under procedure of Article 4;
- and have assignments in the Plan with degraded C/I reference situation.
- as of 23 March 2020 and until 21 May 2020

Equitable access to spectrum and orbit resources - WRC-19 a.i. 7(E)

2/ Fixed Satellite Service priori Plan on Geostationary Orbit

Appendix 30B of book 2 Radio Regulations

A “ special procedure” provides priority to countries

that have no assignments in the List or submitted under Article 6 procedure.

Can only be applied once only.

➔ Why are WRC-19 a.i. 1.4 and 7(E) important?

WRC-19 ensured the **equitable access** to spectrum and orbit resources by providing protection of assignments and a priority mechanism for **developing countries to regain access to spectrum and orbit resources.**

NEXT ? WRC-23 agenda items

WRC-19 agreed to recommend to the **ITU Council** that a World Radiocommunication Conference be held **in 2023** (WRC-23) for a maximum period of **four weeks**.

WRC-19 agreed on over **twenty** agenda items **for WRC-23**, and decided to invite the ITU Council to finalize the agenda.



NEXT ? WRC-23 agenda items Res. 811 (WRC-19)

- a.i 1.6 to consider regulatory provisions to facilitate radiocommunications **for sub-orbital vehicles**;
- a.i 1.15 to harmonize 12.75-13.25 GHz (E to s) by **earth stations on aircraft and vessels** communicating with GSO in the fixed-satellite service globally;
- a.i 1.16 to develop technical, operational and regulatory measures, to use 17.7-18.6 GHz and 18.8-19.3 GHz and 19.7-20.2 GHz (s-to-E) and 27.5-29.1 GHz and 29.5-30 GHz (E-to-s) by **non-GSO FSS earth stations in motion**;
- a.i 1.17 to carry out the appropriate regulatory actions for the **inter-satellite links** in specific frequency bands by adding an inter-satellite service allocation where appropriate;
- a.i 1.18 to consider studies relating to spectrum needs and potential new allocations to the mobile-satellite service for future development of **narrowband mobile-satellite systems**;
- a.i 1.19 to consider a new primary allocation to the **fixed-satellite service** in the space-to-Earth direction in the frequency band 17.3-17.7 GHz in Region 2;

WRC-19: Enabling global radiocommunications for a better tomorrow

“

Radiocommunication services are a crucial accelerator towards the achievement of all the SDGs in both developed and developing countries.

”

- Mario Maniewicz, Director of the ITU Radiocommunication Bureau

For further information

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ITU Observer at STSC 57th
2020

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