

WRC-15 Outcome? <u>Some</u> decisions related to Space services

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Topics on WRC-15 Agenda Items











- 3275 participants attended WRC-15, including:
 - 2780 participants from 162 Member States, and
 - 795 observers representing 130 other entities, including industry
- 19 Agenda items and GFT
- 678 Documents including 2888 proposals were submitted before WRC-15. Two thirds (66%) of those were common proposals (either regional or multi-country)
- WRC-15 addressed over 40 topics related to frequency allocation and frequency sharing for the efficient use of spectrum and orbital resources
- Paperless World conference in 6 Languages

http://www.itu.int/go/wrc-15



RES-425 (WRC-15) - Use of the freq band 1 087.7-1 092.3 MHz by the aeronautical mobile-satellite (R) service (Earth-to-space) to facilitate global flight tracking (GFT) for civil aviation

- Current ATC can't go beyond the LOS of terrestrial radar or ADS-B stations, leaving the vast majority of the planet without ATC traffic surveillance
- This WRC-15 historical decision about the GFT will extend ATC surveillance coverage of ADS-B equipped aircraft from the 30 percent terrestrial coverage available today to <u>100 percent (global coverage) of the earth's</u> surface

WRC-15 AI.GFT Decision



Seamless satellite based ADS-B – GFT - world wide



WRC-15 - AI 1.5 - UAS



AI.1.5 - Unmanned Aircraft Systems (UAS) – Consider use of FSS bands for control and non-payload communications (CNPC) of UAS in <u>non-segregated</u> airspaces in accordance with RES 153 (WRC-12)



WRC-15 AI.1.5-UAS Decision



RES-155 (WRC-15) Regulatory provisions related to earth stations on board of UAS which operate with geostationary-satellite networks in the fixed-satellite service in certain frequency bands for the control and non-payload communications (CNPC) of UAS in <u>non-segregated airspaces</u>

UAS CNPC links will operate in accordance with international *Standards and Recommended Practices and Procedures* established *in accordance with the Convention on International Civil Aviation*

1. that assignments to stations of geostationary FSS satellite networks operating in the frequency bandsGHz and may be used for UAS CNPC links in nonsegregated airspace

2. that ES in motion on board UAS may communicate with the FSS satellite network operating in the frequency bands...



WRC-15 AI.1.1 IMT Decision



AI.1.1 - To consider additional spectrum allocations to the mobile service on a primary basis and identification of additional frequency bands for International Mobile Telecommunications (IMT) and related regulatory provisions, to facilitate the development of terrestrial mobile broadband applications, in accordance with Resolution 233 (WRC-12).

- WRC-15 identified the band 1427-1518 MHz for IMT, requesting the ITU-R to determine the technical measures to ensure compatibility with the mobile-satellite service operations in the adjacent band
- C-band: WRC-15 reconfirmed the need to protect critical fixedsatellite service
- The lower 200 MHz of the C-band downlink frequencies 3400-3600 MHz were identified for IMT in ITU Regions 1 and 2
- In Region 3 some ADM allowing potential IMT use of these 200 MHz by a footnote
- NOC was adopted in the band C-band downlink 3600-4200 MHz
- Only in Region 2 in the band 3600-3700 MHz few countries identified IMT by a footnote
- NOC was adopted in the C-band uplink 5925-6425 MHz





NEW – RES **156** (WRC-15) Use of the frequency bands 19.7-20.2 GHz and 29.5-30.0 GHz by *earth stations in motion* communicating with geostationary space stations in the fixed-satellite service

There is a need for global broadband mobile-satellite communications, and that some of this need could be met by allowing earth stations in motion to communicate with space stations of the fixed-satellite service (FSS)

resolves

 earth stations in motion communicating with the GSO FSS shall remain within the envelope of the coordination agreements of the satellite networks with which this earth station is associated...





Removal of API as of 1.1.2017 – RES 31 (WRC-15)

Transitional measures for the elimination of Advance Publication Information (API) filings by administrations for frequency assignments to satellite networks and systems subject to Section II of Article 9

- RES 40 (WRC-15) Use of one space station to bring frequency assignments to geostationary satellite networks at different orbital locations into use within a short period of time
- MOD 11.44/11.44B (Bringing into use of assignment to a space station)
 MOD 11.49 (Suspension of assignment to a space station)
 MOD 13.6 (Maintenance of the Master Register by the Bureau)

Free online access to ITU-R information



World Radiocommunication Conference (WRC) http://www.itu.int/ITU-R/go/wrc/en

ITU-Radio Regulations @ 2016 http://www.itu.int/pub/R-REG-RR/en

ITU-R Recommendations http://www.itu.int/publ/R-REC/en