



WRC-15 Report

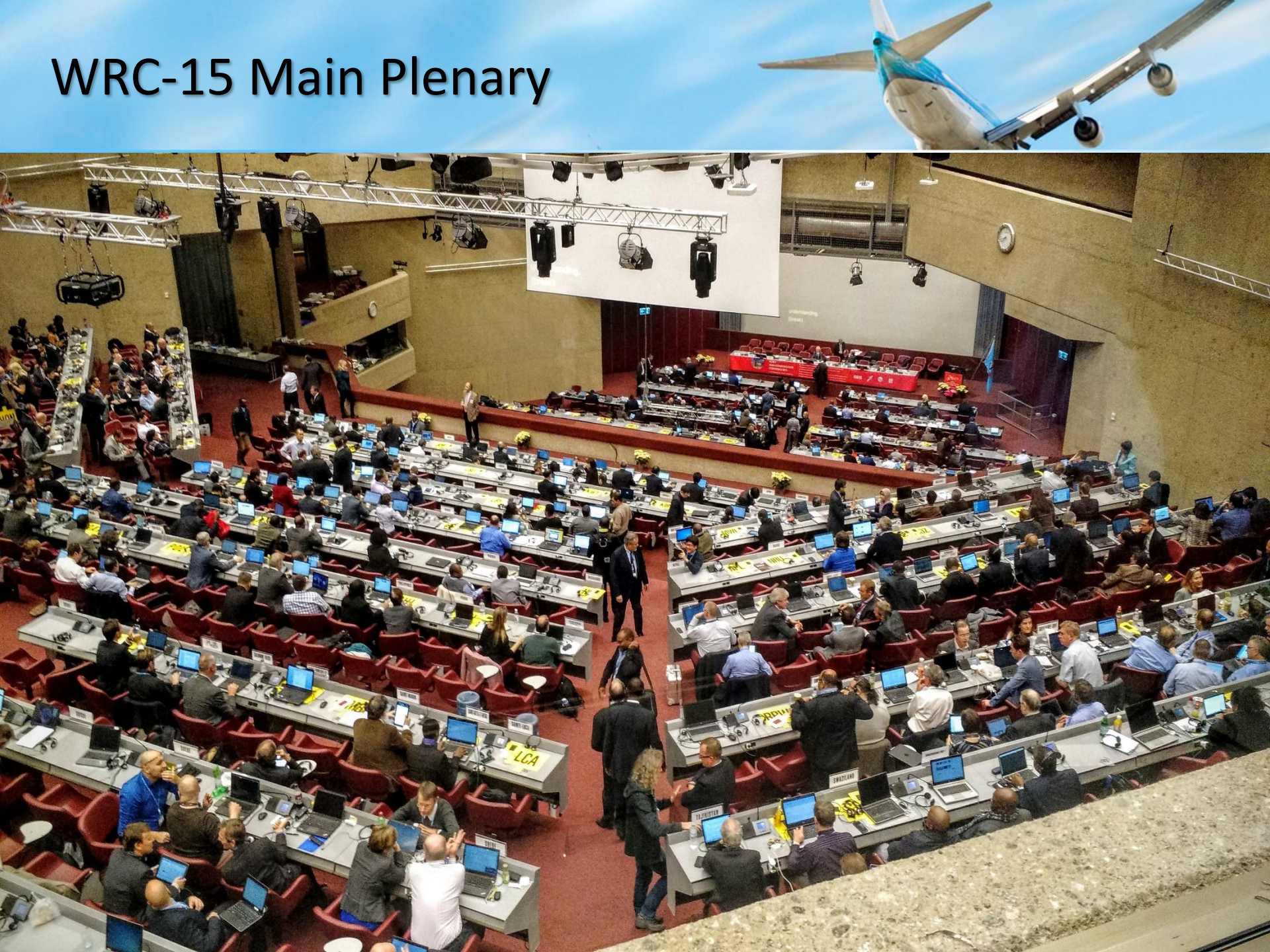
AFC Winter 2016 Meeting – Albuquerque, NM

Summary Report of WRC-15



- World Radio Conference 2015 (WRC-15)
 - ITU Headquarters, Geneva, Switzerland
 - 2-27 Nov 2015
 - 3114 participants across 193 nations
- Creation of UN treaty text for international radio regulations
 - International structure for all countries
 - Last conference (WRC-12) was held in Feb 2012
 - Next conferences are in 2019 and 2023 (WRC-19 and WRC-23)
- Over 15 Agenda Items relevant to AFC
 - 2 ASRI delegates (1 sector member, 1 US delegation)
 - Prioritized to 6 agenda items

WRC-15 Main Plenary



View from the ASRI Desk



WRC Meeting Process - Recap



- WRC controlled from main plenary
 - Attendance by all delegates
 - All decisions need to be unanimously approved at the main plenary
- Work split into different committees
 - Each committee has a number of functionally similar working parties
 - These each contain agenda specific working groups
- Topics have to go through each meeting level for approval
 - Reverse process to approve at the main plenary

Standard Use of Language



- When things are not going as smoothly as you would like...

"Mr. Chairman, I insist on you continuing to insist that administrations not continue to insist on restating their positions."

(Actual quote from one administration during WRC-15 main plenary)

Topics that were focused on



- Prioritization split into high and important items
 - Limits of personnel/time
- High
 - 1.1 – IMT allocations
 - GFT – Global Flight Tracking (ADS-B over satellite)
- Important
 - 1.4 – Amateur HF (co-site interference to Aero HF)
 - 1.5 – UAS control using satellites
 - 1.7 – FSS allocation (AeroMACS interference limits)
 - 1.17 – WAIC allocation

1.1 - IMT



- New allocations for IMT: 400 MHz to 6 GHz
 - Spectrum 'sweet spot' for both cellular and Wifi
 - Inconclusive report from the JTG process
- Potential aviation systems affected
 - PSRs and radio altimeters (adjacent)
 - Rear-link VSAT
- Results
 - Very little new IMT spectrum agreed on
 - Aviation systems are safe
 - Radio altimeter workload

GFT – Global Flight Tracking



- Possible options to support GFT
 - Focused on ADS-B over satellite by modifying existing ADS-B allocation at 1090 MHz
- Results
 - ADS-B satellite allocation approved (AMS(R)S) despite opposition
 - Text included to protect existing radio nav services in band
 - Studies to be completed in next WP 5B study cycle
 - Aircraft equipage issues left to ICAO
 - Questionable media statements afterwards

1.4 – Amateur HF

- New amateur allocation in the 5 MHz range
 - Adjacent to Aero HF allocation
- Results
 - Significant opposition reduced allocation down to 15 kHz
 - Introduced additional EIRP limits for Amateurs
 - Nearly 100 KHz away from aviation HF services
 - No interference issues

1.5 – UAS over satellite



- Use of FSS for UAS command links
 - Remote and oceanic control requirements
- Results
 - Allocation for FSS UAS control approved
 - Modified existing FSS allocations with resolution in the footnote
 - Subject to ICAO SARPs being reported to WRC-23
 - Several contradictions in resolution may have further implications
 - Quickly turned into a political football
 - Required an ‘experts group’
 - Strong views over-ran the discussions
 - Studies remain unfinished

1.5 Debate/Argument



1.7 – AeroMACS interference levels



- FSS in 5091-5150 MHz increasing allowable interference from AeroMACS
 - Would also allow FSS allocation to become permanent
- Results
 - FSS allocation made permanent while increasing allowable AeroMACS interference levels
 - Some unrelated political issues delayed the result until the third week

1.17 – WAIC



- New concept for internal wireless network on an aircraft
 - Boeing/Airbus concept system using radio altimeter spectrum (4.2-4.4 GHz)
- Results
 - Quick adoption of CPM text in one meeting for new AM(R)S allocation
 - Primary allocation, but secondary to radio altimeter
 - Some questions over Article 43.1 for AM(R)S

Future Agenda Items/Work



- GFT
 - Completion of previous studies
 - May still have some issues
- GADSS – Agenda 1.10
 - Concept still not known
 - Concerns raised about a ‘blank check’
 - Regulatory review for WRC-19
 - Possible new agenda for WRC-23
- IMT above 6 GHz – Agenda Item 1.13
 - Will look to convert existing mobile bands between 24.5-86 GHz
 - No direct issues for aviation expected, but will need to review adjacent bands

Future Agenda Items/Work



- C-band IMT - Agenda Item 1.16
 - New Wifi/LTE super band for 5150-5925 MHz
 - Aviation weather radar unaffected
 - No longer operating in the frequency band
 - Need to confirm with AeroMACS adjacent band issues
- Train Communication Systems – Agenda Items 1.11 & 1.12
 - Looking for new spectrum for terrestrial networks
 - DME band a possibility

Future Agenda Items/Work



- Space planes – Agenda Item 9.1.4
 - Regulatory review of space planes for WRC-18
 - BR initiated based on WP5B question
 - May lead to new agenda item for WRC-23
- Wireless Power Transfer (WPT) – Agenda Item 9.1.6
 - Regulatory review of WPT
 - Options for deployment and usage
 - Threat of wideband noise in HF band

Summary



- Aviation's result was good/excellent
 - Achieved majority of new spectrum and protections
 - Several internal aviation divisions that may have repercussions
- IMT did not win as much spectrum as expected
 - New focus on higher bands
 - Will be back for more lower band spectrum
- Other industries may indirectly affect aviation systems in next 3 years
 - Train systems
 - HF and VHF systems