

**1<sup>st</sup> ITU INTER-REGIONAL WORKSHOP  
ON WRC-15 PREPARATION  
(Geneva, 4 – 5 December 2013)**

**Aeronautical, Maritime  
& Radiolocation issues  
Panel-2 Discussions on  
WRC-15 Agenda items  
1.5, 1.15, 1.16,  
1.17 & 1.18**

***John Mettrop  
Chairman WP 5B***

**1<sup>ST</sup> ITU INTER-REGIONAL  
WORKSHOP ON WRC-15  
PREPARATION**

**GENEVA, SWITZERLAND  
4-5 DECEMBER 2013**

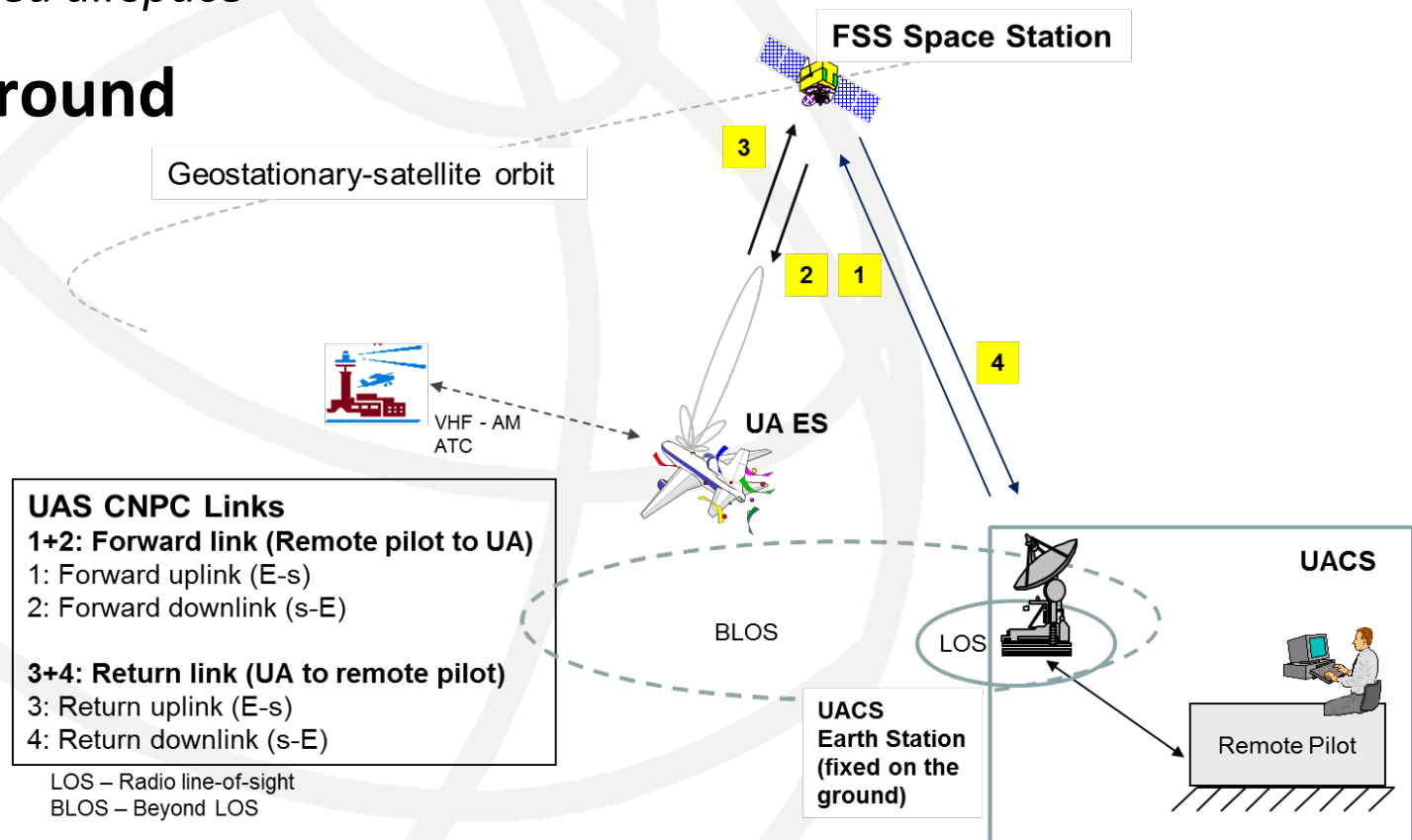
**[www.itu.int/go/ITU-R/WRC-15-irwsp-13/](http://www.itu.int/go/ITU-R/WRC-15-irwsp-13/)**



- **AI 1.5** to consider the use of frequency bands allocated to the fixed-satellite service not subject to Appendices **30**, **30A** and **30B** for the control and non-payload communications of unmanned aircraft systems in non-segregated airspace
- **AI 1.15** to consider spectrum demands for on-board communication stations in the maritime mobile service
- **AI 1.16** to consider regulatory provisions and spectrum allocations to enable possible new automatic identification system technology applications and possible new applications to improve maritime radiocommunication
- **AI 1.17** to consider possible spectrum requirements and regulatory actions, including appropriate aeronautical allocations, to support wireless avionics intra-communications
- **AI 1.18** to consider a primary allocation to the radiolocation service for automotive applications in the 77.5-78.0 GHz frequency band

- to consider the use of frequency bands allocated to the fixed-satellite service not subject to Appendices **30**, **30A** and **30B** for the control and non-payload communications of unmanned aircraft systems in non-segregated airspace

## Background



## ■ Issues

- Fixed satellite or aeronautical mobile satellite (R) service?
- Need to meet ICAO safety requirements
  - System availability
  - Co-ordination status
  - Ensuring protection

## ■ Ongoing Studies

- Draft new Report ITU-R M.[UAS-FSS] (5B/475 Annex 3)

## ■ Latest CPM Text

- Draft CPM Report (5B/475 Annex 3)
  - No agreed methods however proposals for
    - No change
    - Footnote & Resolution to FSS

- *to consider spectrum demands for on-board communication stations in the maritime mobile service*
- **Background**
  - 6 Frequencies assigned for on board communications
  - Additional 4 channels available but subject to national regulation
- **Issues**
  - Need or not for additional channels
  - Implementation of 12.5 kHz channel spacing or not
  - Use of continuous tone code squelch or not
  - Use of some channels for land mobile systems

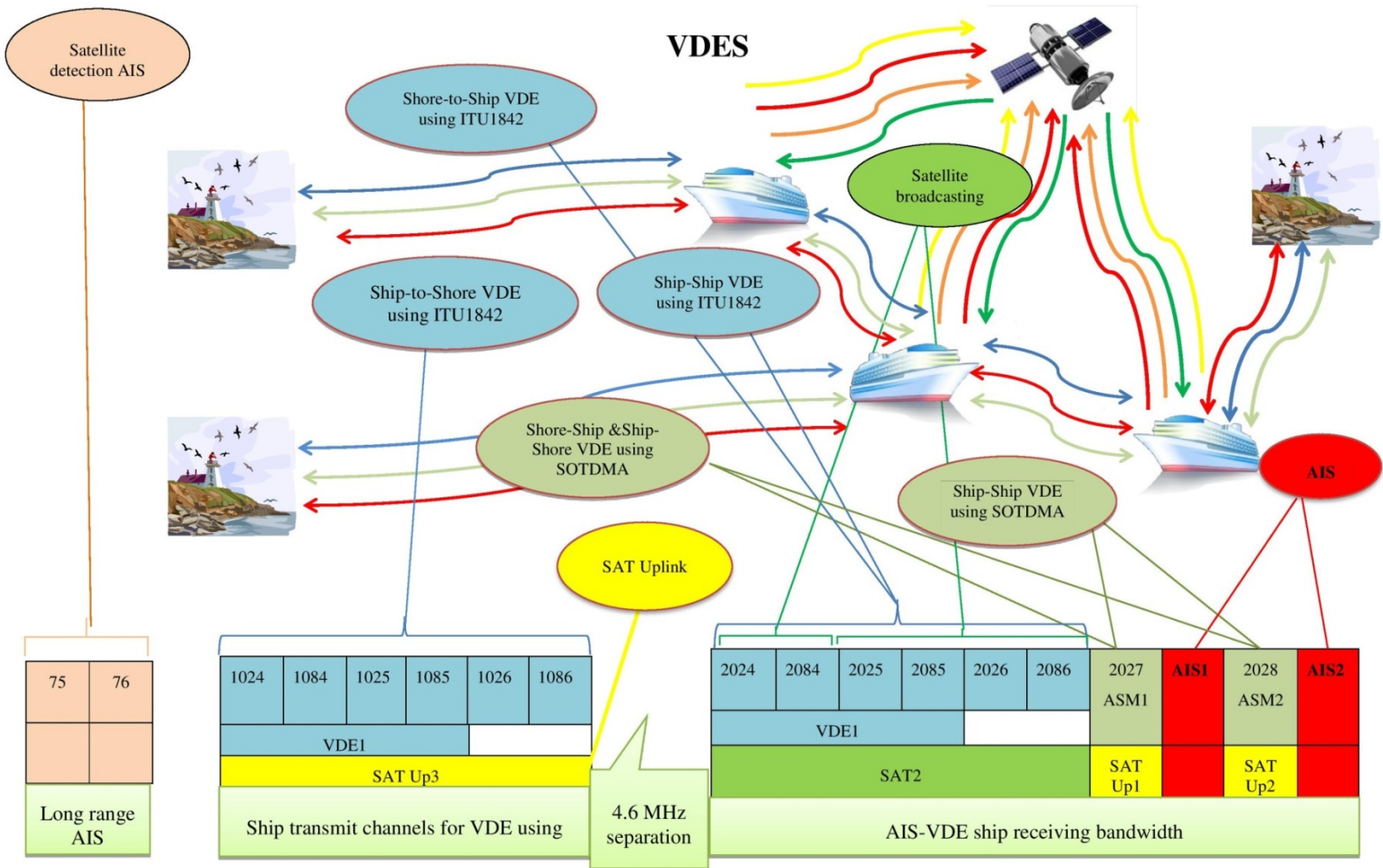
## ■ Ongoing Studies

- No reports or recommendations under development at present

## ■ Latest CPM Text

- Draft CPM Report (5B/475 Annex 3)
  - Common elements
    - Better use of 12.5 kHz channel spacing
    - Use of continuous tone coded squelch systems
  - Method A: No need to identify additional on-board comms channels
  - Method B: Need for the identification of additional on-board comms channels





## ■ Issues

- The best way to accommodate ASM whilst protecting AIS

## ■ Ongoing Studies

- Draft new Report ITU-R M.[VDL-LOADING] (5/74)
- Draft new Recommendation ITU-R M.[VDES] (5B/475 Annex 24)
- Numbering format for AIS repeater stations (5B/475 Annex 39)

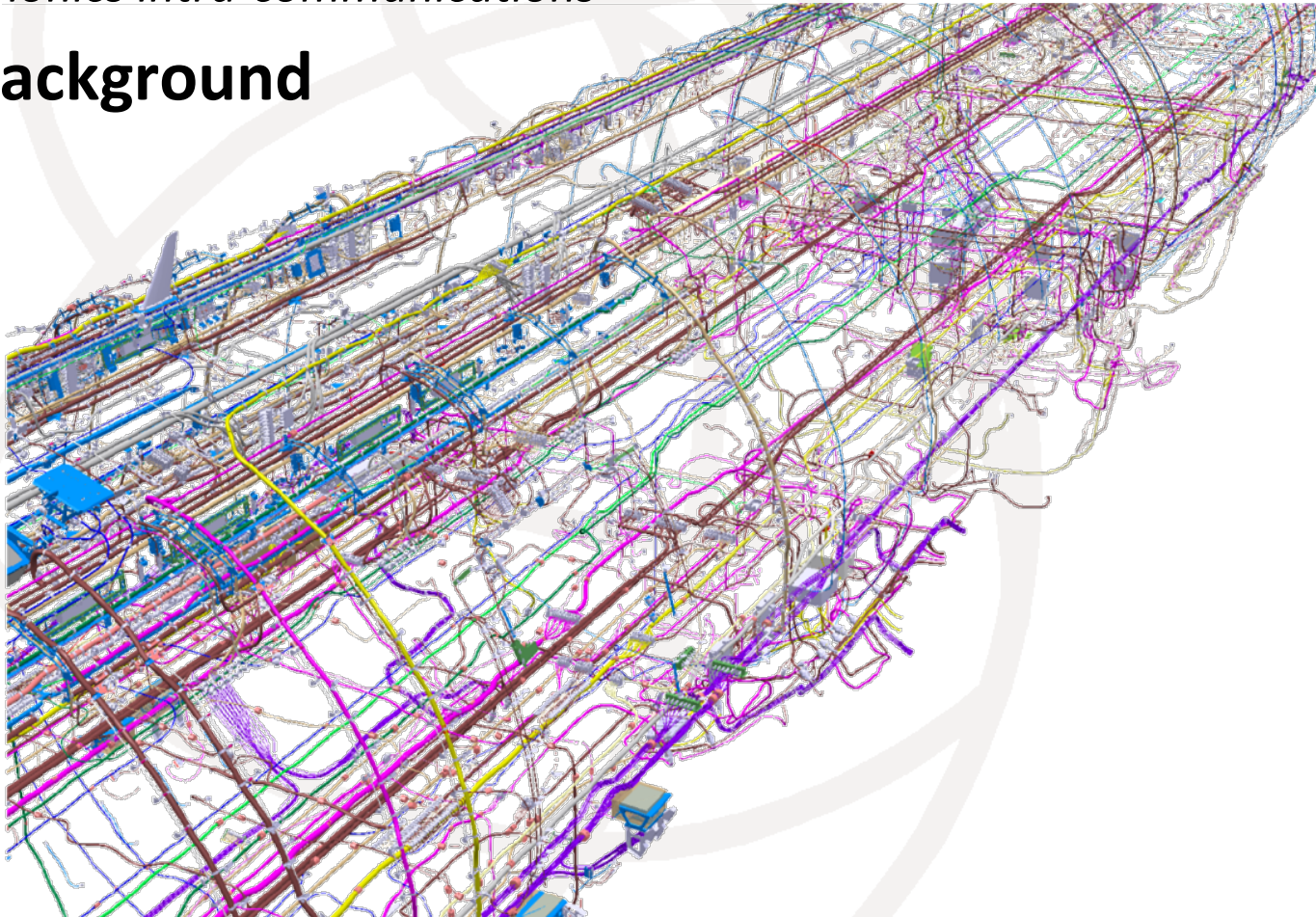
## ■ Latest CPM Text

- Draft CPM Report (5B/475 Annex 5)
  - **Method A:** Split current 2 channels to 4 channels after a transition period
  - **Method B:** 2 additional channels allocated for ASM
  - **Method C:** 2 new channels assigned for ASM
- template the studies dealing with the identification for the channelling plan for VDES (5B/475 Annex 38)



- *to consider possible spectrum requirements and regulatory actions, including appropriate aeronautical allocations, to support wireless avionics intra-communications*

- **Background**



## ■ Issues

- Amount of spectrum required
- Compatibility with systems operating in the frequency bands identified
- Selection of bands to propose

## ■ Ongoing Studies

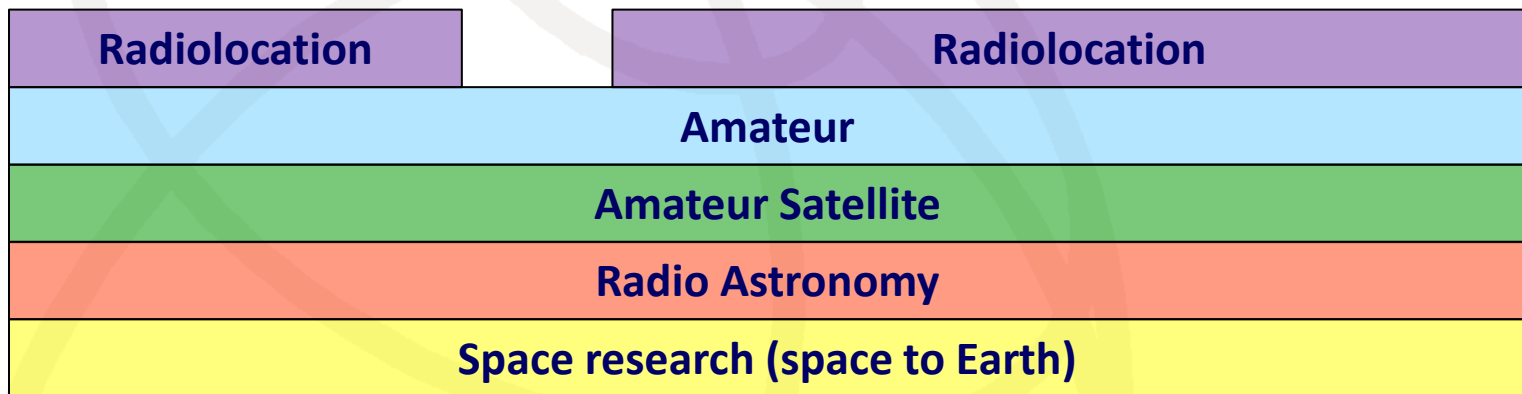
- Draft new Recommendation ITU-R M.[WAIC] (5B/475 Annex 22)
- Draft new Recommendation ITU-R M.[WAIC\_CHAR\_SPEC] (5/51)
- Draft new Report ITU-R M.[WAIC\_CHAR\_SPEC] (5B/475 Annex 21)
- Draft new Report ITU-R M.[WAIC-SHARING\_2700-2900 MHz] (5B/304 Annex 42)
- Draft new Report ITU-R M.[WAIC\_SHARING\_4200-4400MHz] (5B/475 Annex 28)
- Draft new Report ITU-R M.[WAIC-SHARING\_5350-5460 MHz] (5B/475 Annex 27)
- Draft new Report ITU-R M.[WAIC\_SHARING\_22/23 GHZ] (5B/475 Annex 34)
- Draft new Report ITU-R M.[WAIC BANDS] (5B/475 Annex 36)

## ■ CPM Texts

- Draft CPM Report (5B/475 Annex 7)
  - Method A: Allocation to AM(R)S in the frequency band 4200-4400 MHz

- *to consider a primary allocation to the radiolocation service for automotive applications in the 77.5-78.0 GHz frequency band*

## ■ Background



76 GHz      77GHz      78 GHz      79 GHz      80 GHz      81 GHz

## ■ Issues

- Protection of systems operating under existing service allocations (amateur, amateur satellite, radio astronomy & space research (space to Earth))
- Limit allocation via use or technical characteristics

## ■ Ongoing Studies

- Draft new Report ITU-R M.[AUTOMOTIVE RADARS] (5B/475 Annex 29)
- Draft new Recommendation ITU-R M.[AUTO] (5/73)

## ■ CPM Texts

- Draft CPM Report (5B/475 Annex 9)
  - Method A: Primary allocation to the RLS limited to automotive radar
  - Method B: Primary allocation to the RLS limited by tgechnical characteristics