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ICAO WRC-27 Preparatory Workshop
Agenda item 1.15: Lunar communications

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Presentation Overview

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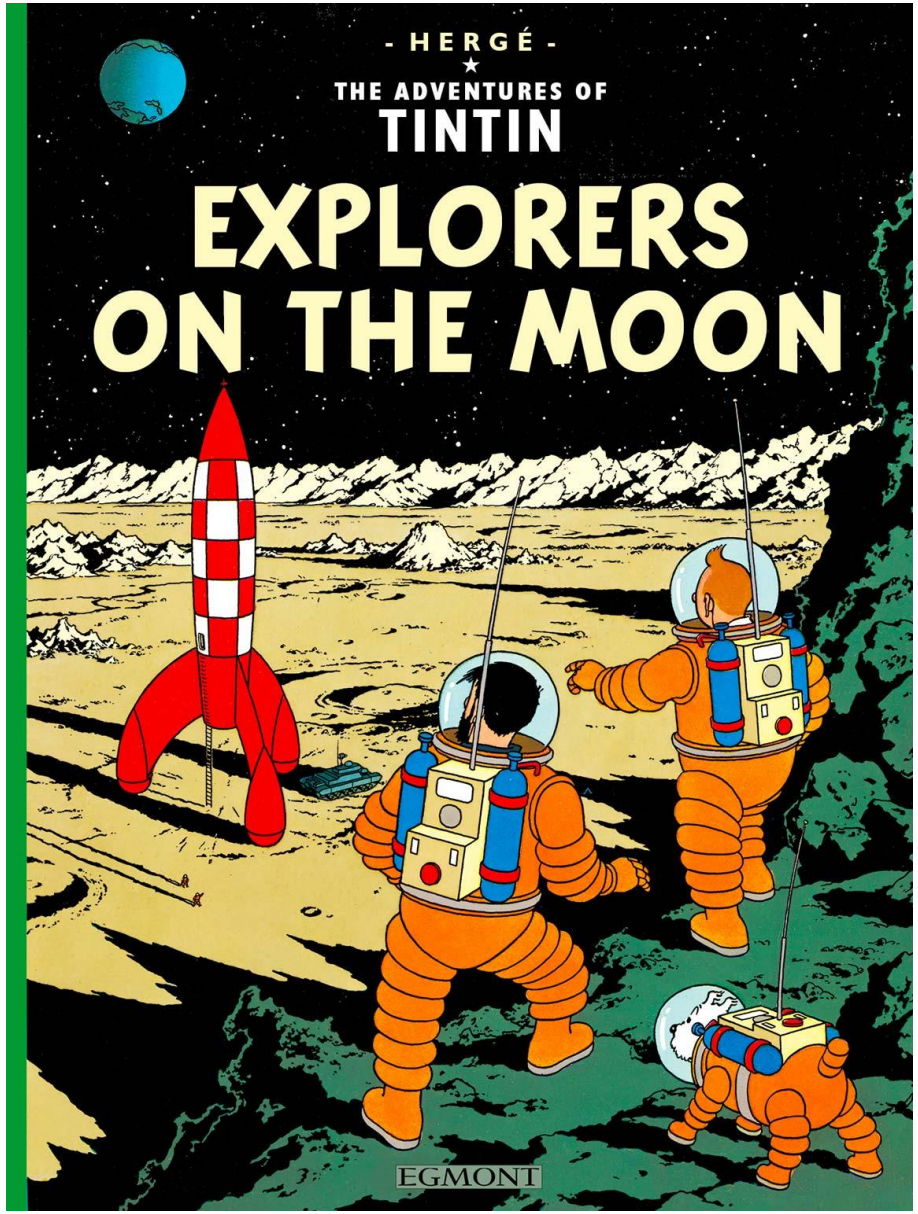
Background

56 years after Apollo 11 mission, new moon exploration projects are on-going.

Some of them plan to deploy habitation modules.

These missions requires radiocommunications solutions.

However, regulatory framework of radiocommunication at the surface of the moon does not exist



Background

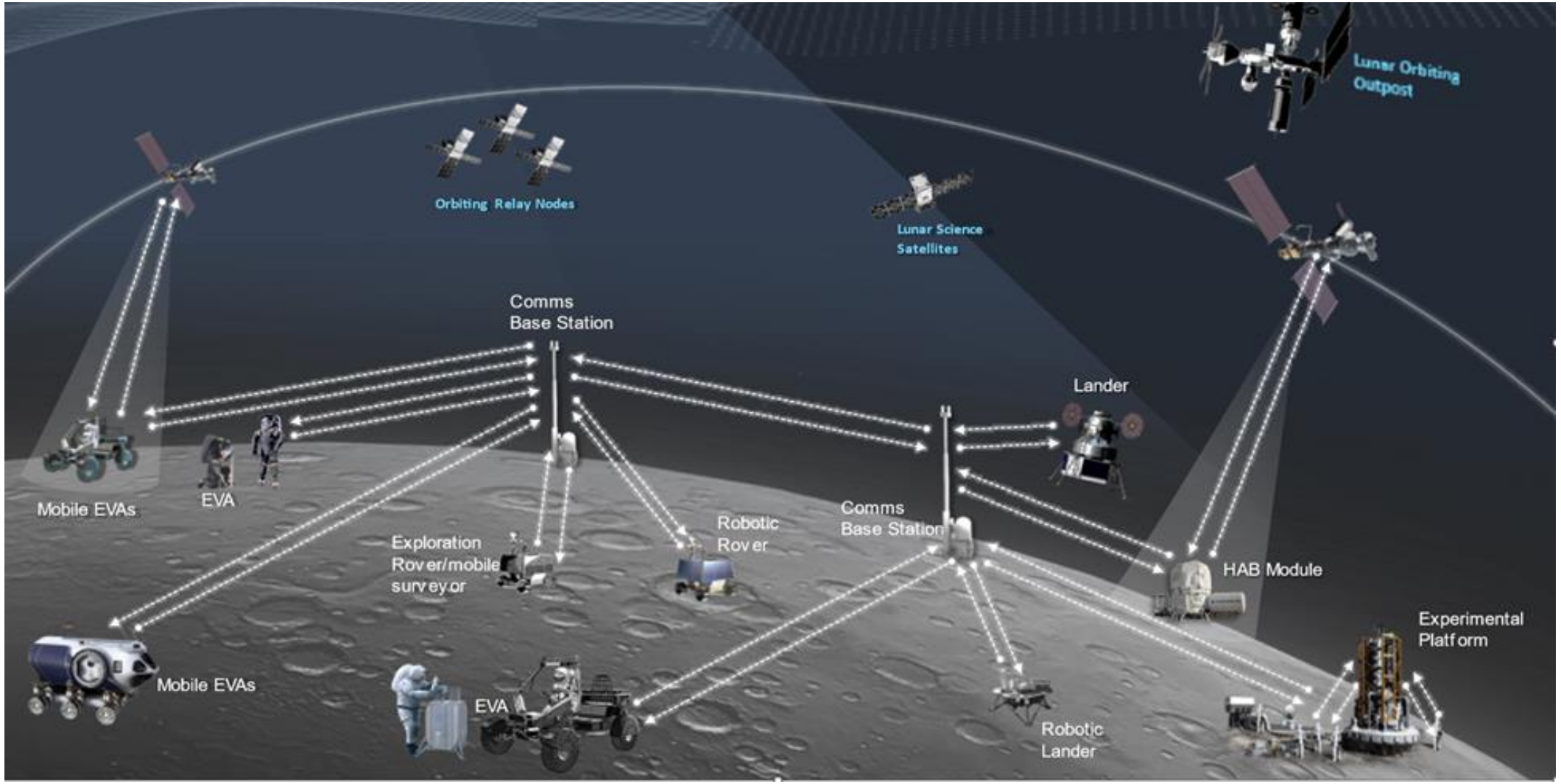
Frequency bands under consideration by ITU-R Resolution 680:

Limited to outside the shielded zone of the moon	Not limited to outside the shielded zone of the moon	
390 – 406.1 MHz	2400 – 2690 MHz	5775 – 5925 MHz
420 – 430 MHz	3500 – 3800 MHz	7190 – 7235 MHz
440 – 450 MHz	5150 – 5570 MHz	8450 – 8500 Mhz
	5570 – 5725 Mhz	25.25 – 28.35 GHz

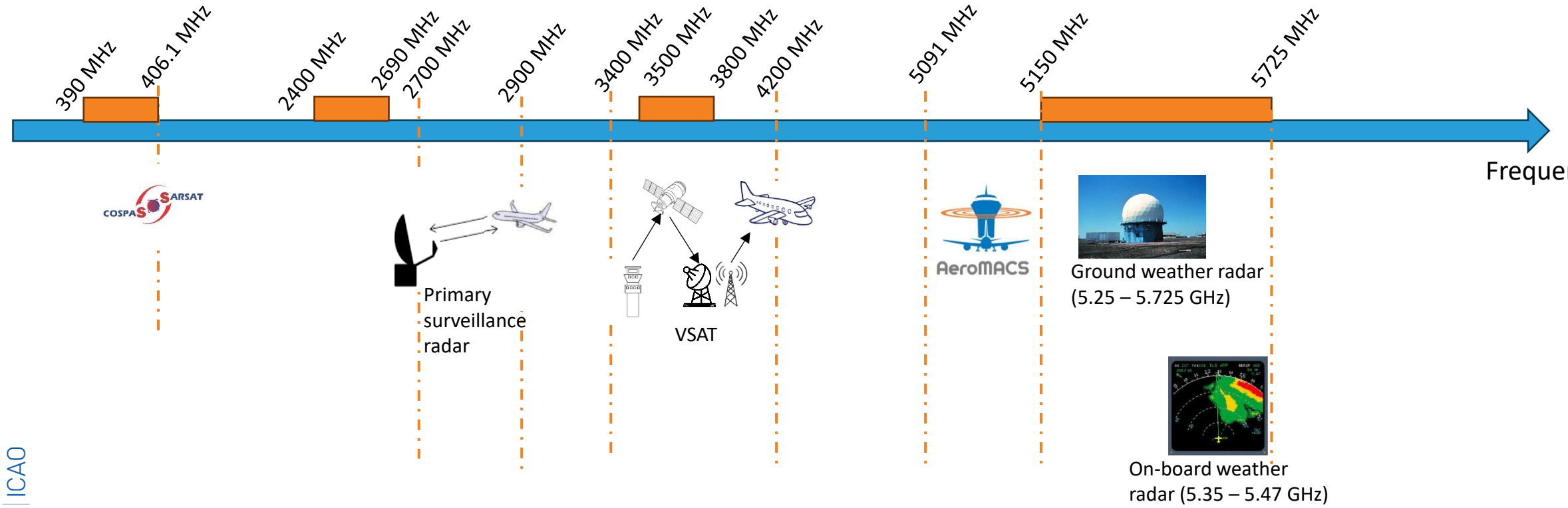
ITU-R Resolution 680 also asks for studies of potential new or modified frequency allocations and/or identifications to the SRS with appropriate regulatory provisions, for communications on the lunar surface or in lunar orbit communicating with systems on the lunar surface

Background

Lunar radiocommunication architecture



Potential issues



1.15

ICAO position

To ensure that ITU-R studies appropriately account for the protection of systems used for the provision of aeronautical services, in particular those operating in the frequency ranges 2 700-2 900 MHz, 3 600-4 200 MHz, 5 350-5 470 MHz.

To ensure that the proposed methods to satisfy this agenda item would not create constraints on the aviation systems used to support the safe operation of international civil aviation.

Conclusion

This agenda item explores space research service allocations for communications at the surface of the moon and between the moon surface of moon orbit vehicles.

Several frequency bands are identified, some of which are adjacent or overlapping aeronautical frequency bands.

Although the separation should be high enough to ensure that civil aviation systems remain free from harmful interference, civil aviation community should remain careful remain protected without undue constraints.

Thank You

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