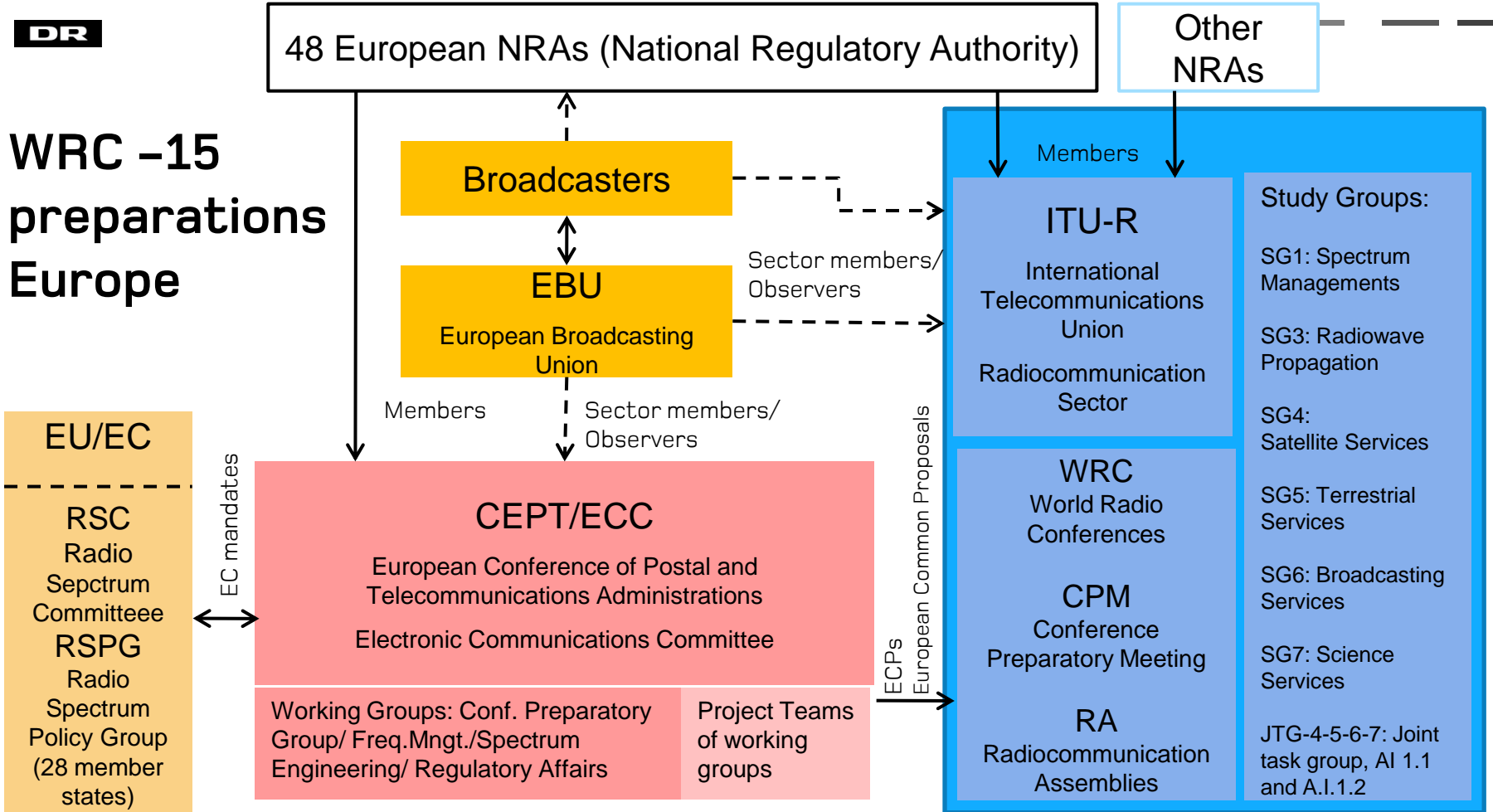




WRC-15 – ISSUES FOR BROADCASTING

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WRC -15 preparations Europe



The most important agenda items for broadcast

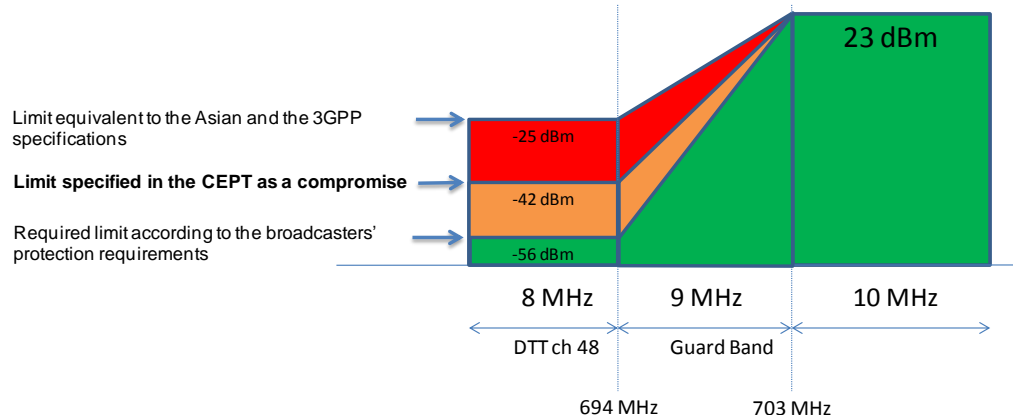
- **Agenda item 1.1:** to consider additional spectrum allocations to the mobile service on a primary basis and **identification of additional frequency bands for International Mobile Telecommunications (IMT)** and related regulatory provisions, to facilitate the development of terrestrial mobile broadband applications, in accordance with Resolution 233 (WRC-12);
- **Agenda item 1.2:** to examine the results of ITU-R studies, in accordance with Resolution 232 (WRC-12), **on the use of the frequency band 694-790 MHz by the mobile, except aeronautical mobile, service in Region 1** and take the appropriate measures;
- **(Agenda item 1.3:** To review and revise Resolution 646 (Rev.WRC-12) for broadband public protection and disaster relief (PPDR))

EBU views

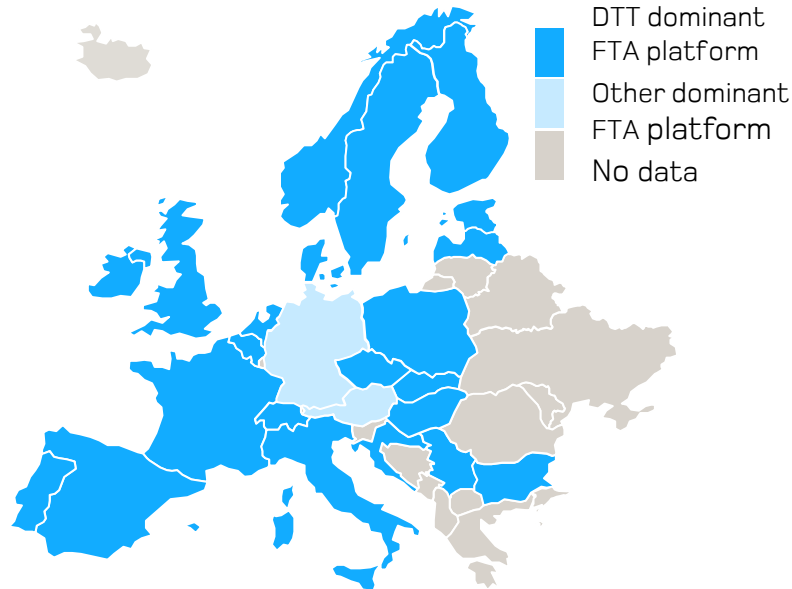
- **AI 1.1:** No Change in the 470-694 MHz and 3.8-4.2 GHz bands
- **AI 1.2:** Technical conditions applicable to mobile use of the 700 MHz band (such as OOB emission levels and guard bands) should be clearly specified in an ITU-R Recommendation. A reference to the Recommendation should be made either in a WRC-15 Resolution or in a footnote to the allocation in the Radio Regulations.
- **AI 1.2:** PMSE services should maintain access to the guard bands and duplex gap in the 694-790 MHz band
- **AI 1.3:** PPDR applications should be accommodated within spectrum already allocated to Mobile Services.
PPDR applications should protect broadcasting services in the adjacent bands and should not impose constraints to broadcasting services.

Protection of DTT from LTE interference (AI 1.2)

- Technical conditions are specified to mobile services to protect broadcasting services, i.e. a guard band of 9 MHz and an out-of-band emission limit of -42 dBm/8MHz for an LTE700 UE using 10 MHz.
- These compromise values will help to reduce the risk of interference into DTT below 694 MHz
- However, interference may still occur in certain cases (portable reception, use of active roof top antennas, etc) Additional mitigation techniques may be required (e.g. rejection filters in receive roof top antennas, reduction of UE transmit power)



DTT is the major free to air platform in Europe



Access to free TV services in European countries

The importance of FTA TV

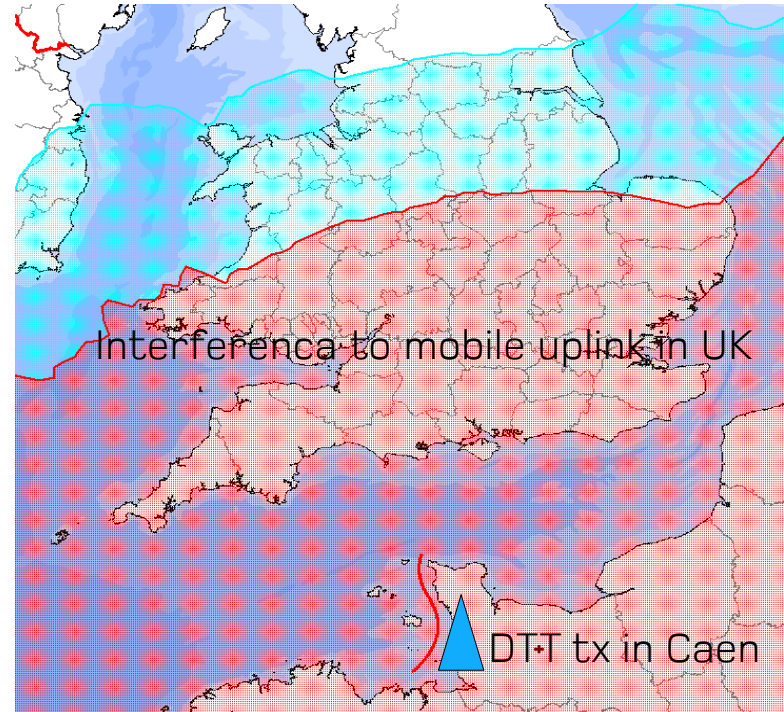
- Free-to-air and free-to-view television plays an important economic, social and cultural role. In particular it:
 - Allows for wide-ranging reach and delivery of Public Service Broadcasting
 - Delivers platform choice and range
 - Contributes to the overall level of competition in TV markets
 - Mitigates the potential risk of powerful gatekeepers

Note: Bundled IPTV and cable TV services that require an on-going subscription have not been classified as free-to-air
Source: EBU/IHS, Informa, Ofcom, Redshift analysis

Co-existence of DTT and mobile?

DTT and mobile cannot co-exist without large separation distances. DTT will interfere to mobile uplink – and mobile base stations will interfere to DTT reception, but not to the same extent.

Example: Introduction of LTE in the 700 MHz band in the southern part of Sweden in 2017 will be severely interfered from DTT in Denmark until 2020, e.g. on channel 51 and 53 in Copenhagen.



Flexibility (downlink only) in the UHF band?

- The current regulatory environment, in particular the ITU Radio Regulations and the GE06 Agreement, provides a large degree of flexibility as recognized in the ECC Report 224
- The GE06 entries can be used for other uses with similar technical requirements as DTT while providing broadcasting use the priority in this band, i.e. the required protection requirements and possibilities for further development in the future
- Other types of flexibility would need to be clearly defined and studied to ensure that those two requirements are met

An allocation to the mobile service in the 470-694 MHz at WRC-15 would not provide additional flexibility and would seriously undermine the future of DTT