



700 MHz / UHF band

Activities undertaken by RSPG and CEPT

Eric Fournier
(fournier@anfr.fr)

More spectrum for broadband

- **Broadband data explosion :**
 - **Huge growth in cellular mobile data traffic, particularly video traffic - About 70% annual growth rate in 2012**
 - **Some forecast studies are indicating that such growth will continue at an annual rate between 50% and 70% in next years**
- **RSPD Decision sets a target of at least 1200 MHz of spectrum available in 2015**
- **RSPG requested to identify possible candidate bands to respond to the future Wireless Broadband needs**

RSPG and the 700 MHz

- RSPG approved an **Opinion** and a **Report** on Wireless Broadband providing a roadmap to the 1200 MHz objective of the RSPP
- an EU-wide strategy to be discussed at political level on the future use of the 700 MHz band, taking into account :
 - duration of broadcasting licenses,
 - the variety of digital terrestrial platforms in Member States
 - cross-border frequency coordination issues
 - the necessity to transition to new technologies. Scenarios and timing for transitioning to new technologies (e.g. DVB-T2, HEVC) would be critical to making the 700 MHz band available for WBB and very much country-dependent
 - the impact on consumers,
 - the resulting costs for the different players,
- a clear policy to allow Member States to take measures relating to TV receivers in order to mandate more efficient technologies (e.g., DVB-T2, HEVC)
- a review of ETSI and CENELEC standards

RSPG opinion on « broadband »

100 MHz for 2,3 GHz and L band

Broadband access	In use/available for WBB (MHz)	Potential for WBB (near term) (MHz)	Medium term potential (>2015) (MHz)	Possibly in very long timeframe	Total (MHz)
Terrestrial	990,00	140,00	566,00	224,00	1920,00
Satellite	173,00	0	0,00	0	173,00
Wi-Fi	538,50	0	320,00	0	858,50
Total	1701,50 MHz	140,00 MHz	886,00 MHz	224,00 MHz	2951,50

96 MHz for 700 MHz
 50 MHz for L band
 20 MHz for DECT
 400 MHz for C band

470-694 MHz « on basis of convergence between mobile and broadcasting »

DTV : RSPG Questionnaire

Administrations	33
- of which are EU Member States	26
Industry Groups	8
Total Responses Received	41

- **66.7%** of countries consider DTV (free-to-air, universal) complementing ADSL, cable, satellite.
 - For other countries : prominence of cable or satellite, competition between platforms
- Industry sees DTV for delivery of multimedia to mobile,
 - ... but only **36%** of administration (and **39%** under discussion)
- Which services ?
 - **63%** UHD
 - ... but only **21%** interactive and **18%** VoD

DTV : ITU questionnaire Region 1

**Required amount of spectrum in the band 470-862 MHz for DTT
in the future (updated to July 2013)**

	<224 MHz	= 224 MHz	> 224 MHz and < 320 MHz	= 320 MHz	>320 MHz	No or unclear reply
Total administrations considered	4	39	6	13	3	19

Mandate from EC to CEPT

- Adopted in February 2013 (4 MS against, 2 abstention)
- Technical harmonisation of the 700 MHz for broadband
 - Objectives :
 - To define least restrictive conditions for an harmonised used of the 700 MHz for broadband including :
 - Channeling arrangement for mobile
 - Protection of broadcasting below 694 MHz
 - PPDR (security networks) may be used at a national level
 - PMSE issue has to be addressed
- Timeline :
 - First CEPT report November 2014
 - Second Report just after WRC-15

WRC-15 possible outcome?

- 694 MHz is now assumed by ITU as the lower band edge of the allocation
- Other critical issues will be solved *before WRC15*
 - Channeling arrangement
 - Conditions to protect broadcasting below 694 MHz
- WRC-15 agenda item may not to be so controversial except local issues
 - Eastern EU with Russian Aeronautical Radionavigation systems
 - Persian Gulf (Iran)

RSPG :

Spectrum coordination approach

- RSPG adopted a report on a proposed spectrum coordination approach for broadcasting in the case of a reallocation of the 700 MHz band :
 - 30% less spectrum for DTV is “disruptive”
 - Need to reconstitute consistent rights below 694 MHz
 - Consistent timeline for 700 MHz availability for broadband given high power / high tower interference to base stations
 - More than 3 years necessary
 - Bilateral/multilateral coordination – CEPT monitoring ?
- CEPT will have to consider initiating as early as possible this process

Proposal for an EC single telecom market

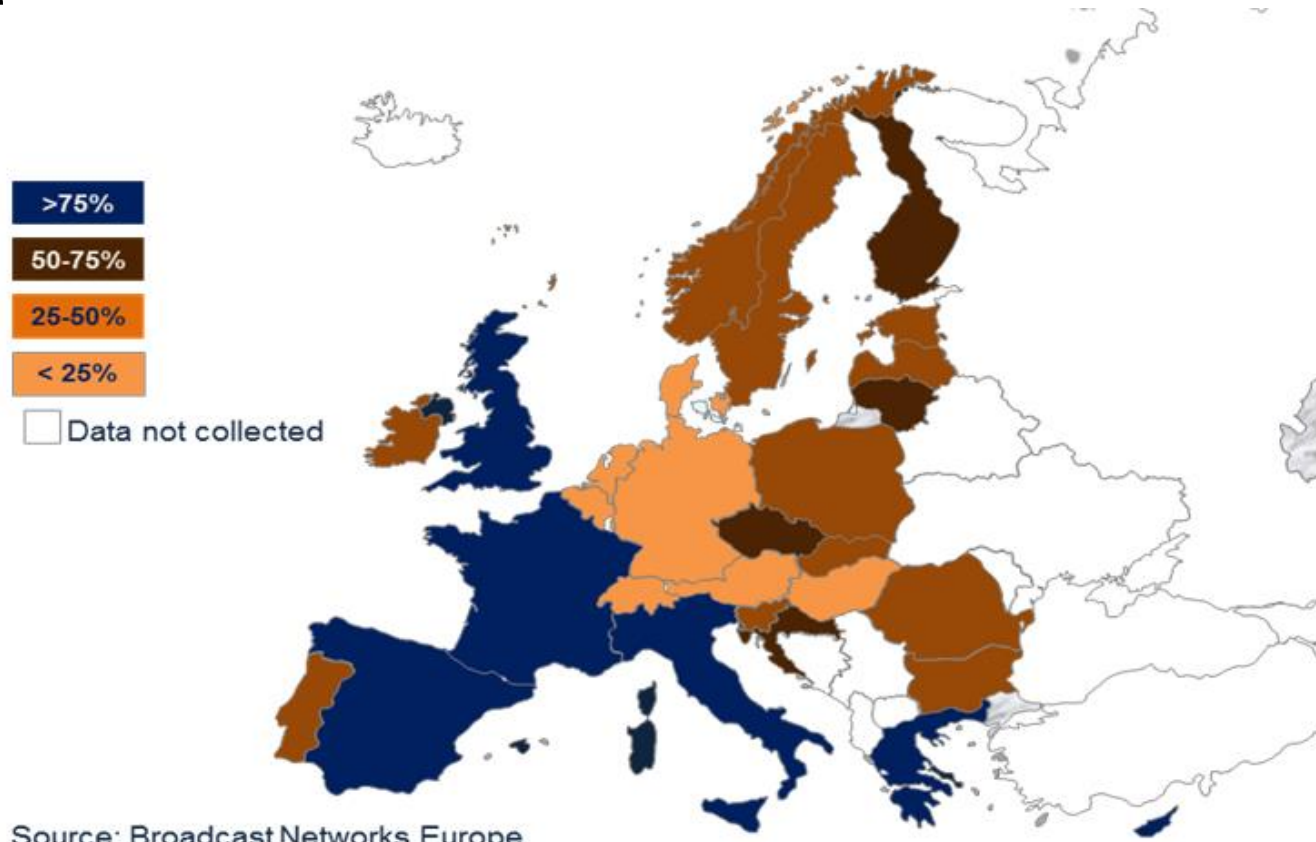
- Published by EC on 11th September 2013
- This proposal is linked to the 700 MHz :
 - New rights for the EC to propose an implementing measure on a new band for ECS with a mandatory timeline for authorization
 - Measure to enforce equitable access, consistency and implementation of bilateral cross-border coordination agreements

What about 470-694 MHz ?

- RSPG opinion asked for a long-term strategic policy on the future use of the UHF band (470-790 MHz), taking account of :
 - spectrum needs of the DTT platforms in the EU
 - spectrum needs of PMSE
 - possible benefits arising from future convergent broadcasting-mobile platforms to deliver linear media/audiovisual services and high-audience video and data to mobile devices (smartphones, tablets, etc.).
- US have launched incentive auction for using 600 MHz for broadband – Issue for WRC-15
- Studies in some countries to use eMBMS to broadcast TV with « must carry » obligations
- ... Confirmation in some other countries about the long term use of the band for DTV

DTV penetration

DTV penetration is very much country-dependent in Europe



Source: Broadcast Networks Europe

Long term UHF vision

- Need to take more strategic and proactive approach to long term for UHF broadcasting band, (focusing on 470-694 MHz)
- Stated wish of European Commission to establish EU policy for whole band 470 -790 MHz
- Diverse national requirements and timescales
- Cross-border incompatibility between broadcasting and mobile uplink (but what about mobile downlink ?)
- Inform preparations for WRC 2015 (in relation to idea of a mobile allocation down to 470 MHz)

CEPT ECC/TG6

- Task Group TG6 (Chair Jaime Afonso (POR))
- Mainly technical focus:
 - Broadcast and mobile network evolution
 - Cross-border coordination: different networks and topologies
 - Cofrequency and adjacent band coexistence: need to improve sharing possibilities
- Produce ECC Report mid-2014 – ”to identify and analyse possible scenarios for the development of the band in the long term” :
 - General description of economic, social and cultural issues
 - Possible roadmaps for development scenarios
 - Appropriate balance between flexibility and harmonisation
 - Evolution in broadcast and mobile traffic demands
 - Timelines, transition, refarming, costs and benefit

THANKS !

Any questions ?