

Response to the consultation  
'Future use of the 700 MHz band  
-Implementing Ofcom's UHF strategy'

July 4, 2013



**APWPT**

**Response to consultation "Future Use of the 700MHz band"**

***Two summary statements:***

**Please be aware that any wrong decision will have an immense impact on the cultural and social life of every citizen of the European Union and UK in particular.**

**The decision on allocating new IMT services in the band 694 – 862 MHz need to be directly linked to a sustainable harmonised EU solution to prevent building up new borders within EU for cultural life.**

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## ***Comments on the Consultation***

1. This is the APWPT response to Ofcom's consultation on the future use of the 700 MHz band in close collaboration with the British Entertainment Industry Radio Group (BEIRG).
2. The secondary status of PMSE is an obstacle to a long term sustainable solution for PMSE.
3. Ofcom should understand that PMSE is one of the most efficient spectrum users and proved to be a service that can share spectrum with other (sharing) services.
4. Ofcom should understand that allocating spectrum to IMT will make any co channel sharing impossible! LTE is one of the most polluting digital modulation schemes creating unpredictable Out Of Block emissions causing harmful interferences to other services.
5. IMT should be forced to be more spectrum efficient in the already allocated frequency bands (GSM and UMTS bands are still underused, providers do not share spectrum, etc.).
6. Ofcom should realise that there is a waste of spectrum to IMT because of the "free market and competition" approach. Every market player a chunk and therefor any chunk is underused. Ofcom should arrange IMT licenses in that way that providers are forced to share in order to be more spectrum efficient.
7. Ofcom should understand that providers are not willing to pay the amounts on auctions as on previous years and will even demand money in return to build the networks (trend of the IMT industry presentations on "Forum Europe Spectrum Management Conference 2013"). As the data demand growth on IMT is based on old studies before 2008 that do not take into account consumer and business behaviour in the current economic crisis, a market failure could occur. Another trend is that the main providers invest in high capacity cable networks.
8. The IMT industry should be aware that they kill their own content production which could have a negative effect on their income on SMS services and traffic during events.
9. Professional Programme Making and Special Events (PMSE) users rely extensively on the Interleaved UHF TV band spectrum, or 'White Space', notably for major live events such as the recent Olympic Games, Wimbledon Tennis, etc. but also routinely for touring theatre and live music, TV, corporate events, News Gathering and many other day-to-day activities. PMSE have an increasingly international character (Olympic Games, UEFA championship, etc.).
10. After the London Olympic Games Ofcom published a report on PMSE spectrum needs during the event. APWPT welcomes this report. Ofcom however should learn from this, that sufficient alternatives are released to PMSE in order to facilitate events in the future and to compensate for any further spectrum loss. Manufacturers are not able to build equipment suitable for just one occasion.
11. The reallocation of DTT allotments currently active in the 700 MHz below 694 MHz will have a diminishing effect on the availability of white spaces for PMSE.
12. When an appropriate alternative cannot be secured the 700 MHz digital dividend should be allocated to PMSE.

13. The 600 MHz band should be opened for PMSE, radio microphones in particular, in order to create an alternative for the loss of the 800 MHz band.
14. The 1,4 GHz L-band (auctioned off to Qualcomm, but so far NOT USED) should be allocated to PMSE and radio microphones in particular, in order to provide alternatives for the 800 MHz band (recent policy of Germany is to allocate 1452-1492 MHz to radio microphones). When the 700 MHz wouldn't be available anymore the extension of the L-band (1492-1525 MHz) should be added as it is a necessity. Other spectrum between 1,2 and 1,6 GHz should be released to fully compensate the loss.
15. TV channels that are available to professional PMSE users at various locations may in practice be rendered unusable due to LTE out-of-block emissions. DTT is not the only service that needs theoretically to be protected from LTE interference and it is vital that a strict regulatory approach is adopted in order to protect PMSE use of the remaining interleaved spectrum. Any relaxation of out-of-block EIRP limits or increases in maximum permitted base station EIRP directly threatens the PMSE industry. We strongly urge Ofcom to adopt and monitor the most stringent emissions mask and to resist any pressure to relax or remove controls on out-of-block emissions or to limit maximum LTE base station EIRP.
16. To grasp the full socio-economic value of PMSE you need to take into account at least a part of the revenues made by productions using PMSE equipment such as:
  - a. Direct sales of equipment
  - b. Direct ticket sales of concerts, sport events and other venues
  - c. Direct revenues of rental companies on the equipment
  - d. The advertisement coming from all the events
  - e. The spin-off of these events (like tourism, hotels, taxis, restaurant and catering industry)
  - f. indirect revenues from SMS services linked to events (European Song Contest, The voice of...etcetera)
  - g. Indirect revenues of IMT providers on the traffic during events
  - h. Indirect revenues (sometimes lasting even more than 10 years after the event) of recorded material of the events (DVD, Blue Ray, You Tube, Film Industry, etcetera).
17. What should be understood is that if the 1st and 2nd Digital Dividends are implemented and most events cannot be produced in their current form, then the loss of the above-mentioned socio economic benefits of PMSE would outclass all revenues on IMT auctions. It would be "pennywise-pound-foolish".  
(e.g. London West End revenues due to secondary revenue streams of the musical industry = £0.5 bln annually times 20 years = auctioned off frequencies £10 bln; source BEIRG UK).
18. The growth of the number of channels used in events is estimated a 10% every year and the data demand growth is similar to that of IT/IMT. PMSE need additional spectrum in order to facilitate this growth.
19. What we demand is a policy that acknowledges the importance of the PMSE industry (users in particular) and a focus on a sustainable long term future that can accommodate the growth of the industry.

20. We fully support BEIRG in their response to this consultation with the exception of the below comments:

Question 3: Any benefit to IMT is over estimated as

- a. The effects of the 1<sup>st</sup> DD are not known yet
- b. The data demand growth of IMT are old studies and not amended to current needs and consumer behaviour
- c. The behaviour of consumers to use Wi-Fi to off-load is a pain for providers but a benefit for consumers
- d. IMT will sit on spectrum and already do. They are underusing already allocated spectrum
- e. The benefits should be compared with the loss of revenues as mentioned in the above socio-economic criteria of PMSE.

Question 5: Further erosion of PMSE spectrum is unacceptable and will hurt the culture economy in its heart. The musical (London West End) industry might even vanish.

Question 7: Ofcom should do whatever it can to defend the interest of the PMSE industry internationally (EC, CEPT and ITU-R/ITU-T).

Question 8: CEPT report 32 identifies for daily productions, which might use up to 98 channels of IEM and radio microphones, that 144 MHz of white space below 1GHz is needed. This spectrum demand should be considered a necessity and guaranteed for PMSE in dense populated areas.

Question 9: The 700 MHz band should not be released in favour of IMT but in favour of PMSE!  
Any further erosion of the UHF TV band is unacceptable!

Question 24 is answered already in points: 2; 3; 9 till 19. The following links are additional useful information:

### **Social and economic benefit of European Art, Culture and Creative Industry**

#### **PMSE strategy paper**

Question 25: Regulators do have the opinion that PMSE, because most radio microphones are still analogue, is an old fashion industry. Currently there are numerous digital radio microphones on the market. Ofcom should realise that:

- a. Digital radio microphones are as sensitive to interference as analogue
- b. Digital radio microphones are not more spectrum efficient than analogue (they even occupy more bandwidth when the same audio quality is needed)
- c. Digital microphones still (and will) suffer from more latency than analogue.
- d. Although the C-PMSE project is in an evolutionary stage, it shows that the PMSE industry is far "more developed" in clever cognitive radio than e.g. the WSD.

Question 26: Answers already in points: 9 till 14.

## ***Additional information on the APWPT***

### **Who we are?**

APWPT is a global non-profit organisation, which is representing the needs of all users of the PMSE sector. Members of APWPT include PMSE organisations, users and manufacturers.

### **What do we do?**

The PMSE sector is critical to the production of content for live entertainment of all genres. This sector extensively utilises wireless equipment such as Wireless Microphones, Wireless In-Ear Monitor Systems, Wireless Talk Back Systems and Wireless Instrument Systems.

For over sixty years wireless products have been used in the entertainment industry. In the past thirty-five years there have been vast improvements in production value and safety levels as a result of advances in wireless technology.

### **How do we do it?**

The PMSE sector currently relies on the spectrum interleaved between existing TV broadcasts, to enable the use of Radio Microphones, In-Ear- Devices, wireless cameras and other short-range wireless devices. This equipment is an essential component of the Entertainment Industry. Due to their efficient use of spectrum, radio microphones (they do not cause harmful interference and engineers create very defined frequency plans) are hardly noticed.

### **Who benefits from our activities?**

On a daily basis this sector is responsible for the production of content that has received world-wide acclaim and continues to attract a global audience. A vast array of organisations are reliant on radio spectrum for the production of content for **Performing Arts, Broadcasting, News Gathering, Independent Film and TV Production, Corporate Events, Concerts, Night Venues, Sports Events, Churches...** In addition, other sectors that utilise the current UHF spectrum include the Health Service, Education, Local Government, Political Programming and Conferencing.

In addition these technologies play a vital role in helping to improve security and safety levels within the Entertainment Industry and other sectors. Their benefits include improving the management of electrical safety, the reduction of noise levels, the development of safety in communications and reducing trip hazards as well as providing an essential tool for the security orientated services.

Its wireless equipment and the spectrum it operates on are crucial to the European Entertainment Industry.

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