

## Your response

### Question

#### Section 3 –Spectrum use by the PMSE sector in the UK

**Question 1:** What are your views on how our processes work - for example our online booking system, turnaround times, and event coordination. Do you think the current approach works well? How could we improve it?

#### Section 4 – PMSE historic trends

**Question 2:** Do you have any comments on how we have analysed and characterised wireless microphone and IEM demand, or suggestions for alternative ways of characterising this demand?

**Question 3:** Do you have any comments on how we have analysed and characterised wireless video demand, or suggestions for alternative ways of characterising wireless video demand?

#### Section 5 – Future trends and opportunities

##### Wireless audio

##### Drivers of demand

**Question 4:** What factors have driven changes in the demand for audio PMSE applications, specifically for:

- a) the increased use of coordinated wireless microphones and IEMs, particularly the peak number of simultaneous assignments used at the largest events?
- b) the slight decline in the number of national wireless microphone licences (UHF channel 38 and VHF)? Has the extent of use of these licences changed, and if so why?
- c) the declines in talkback, fixed audio links and ADS licences?

### Your response

Confidential? – N

OFCOM needs to be able to react much quicker for short notice bookings. Jobs are often finished before they respond

Confidential? – N

On any given day there are a multitude of small scale operations on location across the UK that are not really captured by this analysis

Confidential? – Y / N

Confidential? – N

I often work as Sound Assistant for the Premier League onsite as well as CBS for Champions league. There are many broadcasters all at the same ground demanding more and more presenters and guests. Each with their own radio mics and IEMS. We often struggle to find enough spare frequencies. There are increased demands from productions for more onscreen talent, more reporter positions and more spare radio mics for managers and footballs to contribute to the programme.

On many drama productions producers now require all artist to be mic'd – hence more channels on operation.

For reality programme making and factual entertainment there has been an exponential increase demand for channels as shows become bigger with more contributors.

**Question 5:** What factors could drive further changes in the demand for audio PMSE applications in the future, and what will this mean for future demand, specifically for:

- a) coordinated wireless microphones and IEMs, particularly the peak number of simultaneous assignments used at the largest events?
- b) national wireless microphone licences (UHF channel 38 and VHF)?
- c) talkback, fixed audio links and ADS licences?

Confidential? – Y / N

**Question 6:** Do you agree that, given the trends, we are right to focus on wireless microphones/IEMs?

Confidential? – N. - For me yes, my livelihood depends on it.

#### Changes in the take-up of bands already available

**Question 7:** What factors have driven the take-up of different bands for wireless audio? What are the barriers to greater use of the DME band?

Confidential? – N. More production demands – DME is becoming more used. The barriers for me are cost. My radio mics and IEMS make up the most costly part of my equipment investment wise, most of it is not DME compatible. Upgrading to DME for me will be expensive and difficult to afford.

**Question 8:** What actions could enable greater take-up of the DME, DECT and licence exempt bands in the future?

Confidential? – N - Wider publicity by OFCOM of its availability

#### Changes in spectrum availability

**Question 9:** Which potential additional bands might be suitable for wireless audio applications, particularly microphones and IEMs at the largest events and venues?

Confidential? – Y / N

**Question 10:** To what extent do the characteristics of different audio applications drive their requirements for spectrum – for example particular requirements for latency, resilience or capacity?

Confidential? – N. Low latency is essential in high quality multi-mic set ups

#### Changes in efficiency of spectrum use

**Question 11:** What changes in spectrum use (technology, working practices, different bands, etc) have enabled audio wireless growth to be accommodated to date, particularly the increased use of wireless microphones and IEMs at the largest events and venues in the context of reduced UHF spectrum

Confidential? – Y / N

availability?

**Question 12:** What technologies are currently available or are being developed which can improve audio spectrum efficiency in the future, particularly in the use of wireless microphones and IEMs at the largest events and venues? Confidential? – Y / N

**Question 13:** Are there any barriers to adopting more efficient technologies for audio applications, particularly for wireless microphones and IEMs at the largest events and venues? What could industry do and what could Ofcom do to facilitate greater use of those technologies? Confidential? – N. No barriers provided high quality and low latency is not compromised

**Question 14:** What changes to working practices and spectrum planning could improve audio spectrum efficiency in the future, particularly in the use of wireless microphones and IEMs at the largest events and venues? Confidential? – Y / N

**Question 15:** Are there any barriers to adopting working practices that could enable more efficient use of spectrum by audio applications, particularly for wireless microphones and IEMs at the largest events and venues? What could industry do and what could Ofcom do to facilitate those efficiencies? Confidential? – Y / N

## Wireless video

Confidential? – Y / N

### Drivers of demand

**Question 16:** What factors (such as more complex events and use of higher resolution equipment) have driven the demand for wireless video bandwidth, in particular for:

- a) the increased bandwidth required for the largest sporting events such as Formula 1 at Silverstone and The Open Championship?
- b) the bandwidth required for nationally important state events such as The Coronation?
- c) the slow growth or decline in bandwidth used at horse racing fixtures?

**Question 17:** What factors could drive further changes in the demand for wireless video bandwidth in the future, and what will this mean for future demand, in particular for: Confidential? – Y / N

- d) the bandwidth required for the largest sporting events

like Formula 1 at Silverstone and The Open Championship?

- e) the bandwidth required for nationally important state events such as The Coronation?
- f) the bandwidth used at horse racing fixtures and other major sporting events?

### Potential new bands

Confidential? – Y / N

**Question 18:** What factors have influenced the degree of take-up of existing bands used by wireless video applications, particularly the growth in take-up of the 7 GHz band?

**Question 19:** Which potential additional bands might be suitable for video PMSE applications, particularly at the largest events and venues?

Confidential? – Y / N

**Question 20:** To what extent do the characteristics of different video applications drive their requirements for spectrum – for example particular requirements for resilience or capacity?

Confidential? – Y / N

### Changes in efficiency of spectrum use

Confidential? – Y / N

**Question 21:** What technologies are currently available or are being developed which can improve wireless video spectrum efficiency in the future?

**Question 22:** Are there any barriers to adopting more efficient technologies for wireless video? What could industry do and what could Ofcom do to facilitate greater use of those technologies?

Confidential? – Y / N

**Question 23:** What types of video demand could realistically be supported by private (for example 5G) networks?

Confidential? – Y / N

**Question 24:** What changes to working practices and spectrum planning could improve video spectrum efficiency in the future?

Confidential? – Y / N

**Question 25:** Are there any barriers to adopting working practices that could enable more efficient use of spectrum by wireless video? What could industry do and what could Ofcom do to facilitate those efficiencies?

Confidential? – Y / N

### Other comments

Confidential? – N.

**Question 26:** Do you have any other comments or

I am a self-employed location sound engineer with 25 years experience in Film and Tv production in

views on the issues raised in this document?

the UK.

I have heavily invested in radio audio equipment and IEM equipment and licencing over the years,

I use Wisycom, Audio Ltd and Sennheiser radio mics and IEMS all in the 38 Channel band.

As a living it can be a precarious and any restrictions to Channel 38 would further endanger my livelihood.

I would struggle to afford changing all my RF audio equipmment.

I value OFCOMS provisions of a PMSE band.

The UK is a world famous location for film and television programme making and audio is an essential part of this process.

I would urge OFCOM to protect this. Productions, events, concerts, films and sporting occasions will relocate to other countries where there are less impediments. Many jobs and the investment will be lost as a result.

**Please tell us how you came across about this consultation. — email from the Associations of Motion Picture Sound (AMPS) and the Institute of Professional Sound (IPS) I am a full member of both**

- Email from Ofcom
- Saw it on social media
- Found it on Ofcom's website
- Found it on another website
- Heard about it on TV or radio
- Read about it in a newspaper or magazine
- Heard about it at an event
- Somebody told me or shared it with me
- Other (please specify)

Please complete this form in full and return to [liz.hall@ofcom.org.uk](mailto:liz.hall@ofcom.org.uk).