

Your response

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<p>Section 3 –Spectrum use by the PMSE sector in the UK</p> <p>Question 1: What are your views on how our processes work - for example our online booking system, turn-around times, and event coordination. Do you think the current approach works well? How could we improve it?</p>	<p>Confidential? – N</p> <p>Generally works well</p>
<p>Section 4 – PMSE historic trends</p> <p>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?</p>	<p>Confidential? – N</p> <p>I think there has been an under estimation of demand & available channels for PMSE users. Since the last spectrum change there has been a significant increase of unlicensed users in the Ch38 band often using cheap imports with higher RF output. There seems to be no obvious policing of this. For shared licences, an absolute maximum of 12 frequencies in Ch38 plus another 9 in the Duplex gap (823 to 832 MHz) only gives a total of 21 radio microphones which in recent years has become insufficient.</p>
<p>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?</p>	<p>Confidential? –N</p> <p>No Comment (not applicable to me)</p>

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<p>Section 5 – Future trends and opportunities</p> <p>Wireless audio</p> <p>Drivers of demand</p> <p>Question 4: What factors have driven changes in the demand for audio PMSE applications, specifically for:</p> <ul style="list-style-type: none"> 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? 	<p>Confidential? –N</p> <p>As we deal mainly with smaller events (and hence smaller budgets) coordinated licencing (along with the additional cost of hiring specific frequency equipment) proves far too expensive for our usual clients.</p> <p>As already noted, I suspect the decline in the number of national (shared) licences has been driven by both ignorance on the requirement to licence and by a general ‘I won’t bother licencing’ attitude.</p>
<p>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:</p> <ul style="list-style-type: none"> 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)? 	<p>Confidential? – N</p> <p>National licence take-up doesn’t really identify actual use of these frequencies.</p> <p>As a national licence payer, one has to ask “what do I get for my licence cost?” In the old days of the Radio Authority a telephone call regarding interference or potential illegal use of the spectrum usually had a rapid response. It would seem (to be brutally honest) that OFCOM is only interested in taking money for national licences. This will only continue to drive the reduction in licences as more users feel that there’s no real risk to operating without a licence</p>

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c) talkback, fixed audio links and ADS licences?	
Question 6: Do you agree that, given the trends, we are right to focus on wireless microphones/IEMs?	Confidential? – N Yes.
<p>Changes in the take-up of bands already available</p> <p>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?</p>	Confidential? –N Barrier to DME band take-up = cost.
Question 8: What actions could enable greater take-up of the DME, DECT and licence exempt bands in the future?	Confidential? – N An undertaking that these bands will be protected for a significant number of years. It's been 16 years since the last major spectrum upheaval and I would expect my equipment to last for around another 9 years. If I invest heavily in DME band for example, how can I be sure that spectrum re-assignment doesn't happen a couple of years down the line?
<p>Changes in spectrum availability</p> <p>Question 9: Which potential additional bands might be suitable for wireless audio applications, particularly microphones and IEMs at the largest events and venues?</p>	Confidential? – N Not applicable to me
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 Existing latency is OK for me. My main requirements are resilience and capacity for live theatre work.

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<p>Changes in efficiency of spectrum use</p> <p>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 availability?</p>	<p>This doesn't just affect large venues</p>
<p>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?</p>	<p>Confidential? – Y / N</p> <p>Not applicable to me</p>
<p>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?</p>	<p>Confidential? – Y / N</p> <p>Not applicable to me</p>
<p>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?</p>	<p>Confidential? – Y / N</p> <p>Not applicable to me</p>
<p>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</p>	<p>Confidential? – Y / N</p> <p>Not applicable to me</p>

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Ofcom do to facilitate those efficiencies?	
<p>Wireless video</p> <p>Drivers of demand</p> <p>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:</p> <ul style="list-style-type: none"> 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? 	<p>Confidential? – Y / N</p> <p>Not applicable to me, I don't use wireless video</p>
<p>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:</p> <ul style="list-style-type: none"> a) the bandwidth required for the largest sporting events like Formula 1 at Silverstone and The Open Championship? b) the bandwidth required for nationally important state events such as The Coronation? 	<p>Confidential? – Y / N</p> <p>Not applicable to me, I don't use wireless video</p>

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c) the bandwidth used at horse racing fixtures and other major sporting events?	
<p>Potential news bands</p> <p>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?</p>	<p>Confidential? – Y / N</p> <p>Not applicable to me, I don't use wireless video</p>
<p>Question 19: Which potential additional bands might be suitable for video PMSE applications, particularly at the largest events and venues?</p>	<p>Confidential? – Y / N</p> <p>Not applicable to me, I don't use wireless video</p>
<p>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?</p>	<p>Confidential? – Y / N</p> <p>Not applicable to me, I don't use wireless video</p>
<p>Changes in efficiency of spectrum use</p> <p>Question 21: What technologies are currently available or are being developed which can improve wireless video spectrum efficiency in the future?</p>	<p>Confidential? – Y / N</p> <p>Not applicable to me, I don't use wireless video</p>
<p>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?</p>	<p>Confidential? – Y / N</p> <p>Not applicable to me, I don't use wireless video</p>
<p>Question 23: What types of video demand could realistically be supported by private (for example 5G) networks?</p>	<p>Confidential? – Y / N</p> <p>Not applicable to me, I don't use wireless video</p>

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<p>Question 24: What changes to working practices and spectrum planning could improve video spectrum efficiency in the future, particularly in the use of wireless microphones and IEMs at the largest events and venues?</p>	<p>Confidential? – Y / N</p> <p>Not applicable to me</p>
<p>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?</p>	<p>Confidential? – Y / N</p> <p>Not applicable to me, I don't use wireless video</p>
<p>Other comments</p> <p>Question 26: Do you have any other comments or views on the issues raised in this document?</p>	<p>There seems to be an emphasis on PMSE in “Large events and venues”. Please don't forget the large number of users working in small venues.</p>

Please tell us how you came across about this consultation.

- Somebody told me or shared it with me
- Other (please specify) Institute of Professional Sound

Please complete this form in full and return to liz.hall@ofcom.org.uk.