

Your response

Question	Your response
<p>Question 1: Have we correctly identified the key changes in the utilities sector that could lead to additional spectrum requirements?</p>	<p>Confidential? – Y / N</p> <p>No comment</p>
<p>Question 2: What alternative communication solutions might play a role in meeting the future operational communication needs of the utilities sector, alongside or instead of additional spectrum for a private network?</p>	<p>Confidential? – Y / N</p> <p>No comment</p>
<p>Question 3: Are there any other spectrum bands we should consider for use by utilities?</p>	<p>Confidential? – Y / N</p> <p>It is obvious that changes to the utility networks, especially changes to the electricity distribution networks as the industry responds to the Government’s objective to deliver net zero, will require increased connectivity. Given the expressed need to use 3GPP standardised technology, e.g. 4G/LTE or 5G, limits the choice of bands to those that form part of the 3GPP suite, and hence the choice of bands listed.</p> <p>It is noted that there are other 3GPP bands that have not been included in the list of options and, given the importance of addressing climate change, perhaps these should also be included in the discussion for completeness – if only to give a clear rationale as to why these are discounted. For example, in relation to the 700 MHz option, what would be the costs and benefits of having 5 MHz of the SDL allocation used as a guard band (i.e. 738 to 743 MHz) to mitigate the risk of interference from SDL into the utilities’ network.</p>

<p>Question 4: Do you have any comments on the three bandwidths we have considered that might be necessary to support a private network for utilities? Please reference our capacity analysis in annex 7 where relevant.</p>	<p>Confidential? – Y / N</p> <p>No comment</p>
<p>Question 5: Do you have any comments on our approach to examining each potential candidate spectrum band, including the factors relevant to assessing suitability, and the capacity and coverage analysis provided in annexes 7 and 8?</p>	<p>Confidential? – Y / N</p> <p>No comment</p>
<p>Question 6: Do you have any comments on our overview of the 400 MHz band in NI? Please consider the specific factors we have discussed in your response.</p>	<p>Confidential? – Y / N</p> <p>No comment</p>
<p>Question 7: Do you have any comments on our overview of the 450 MHz band in GB and NI? Please consider the specific factors we have discussed (including the coexistence analysis in annex 9) in your response.</p>	<p>Confidential? – Y / N</p> <p>As Ofcom itself notes, the 450 to 470 MHz band is extensively used across many sectors and industries. For PMSE event management, control and safety the band is a key resource for delivering live concerts, sporting events and film and TV production. This is clearly shown by the number of assignments issued in 2022. We note that compared to the 2013 analysis, the number of assignments has increased by circa 56% which reflects the observed growth in the cultural and creative industries supported by PMSE, and the corresponding growth in economic and cultural value to the UK.</p> <p>A reallocation of the 450 to 470 MHz band would, demonstrably, severely impact the PMSE sector without adequate mitigation, and we note that the CFI provides no thoughts on how this would be managed, for example what and how</p>

	<p>alternative spectrum would be made available, noting that this would need to be supported by existing equipment and be sufficient to meet the operational needs with respect to bandwidth, quality of service and availability.</p> <p>For Wimbledon Tennis Championships alone, one stakeholder, Creative Technology, almost occupy all the spectrum for various applications and facilities with UHF radio channels totals 45 (401 to 470MHz). This does not include EMG broadcast who incorporate Broadcast RF, and likely a few others.</p> <p>Royal events such as wedding/funeral/Coronation typically use approximately 26-30 frequencies/assignments between 401-470MHz.</p> <p>The relatively low number of assignments can mask the scale and importance of the use of this spectrum as the efficiencies and purposes of PMR applications allows multiple users to operate on the same frequency leading to between 150 to 200 devices being deployed across such an event.</p> <p>These uses will be across a wide range of applications such as communications for technical crews, security staff and relays/links within the site.</p> <p>These systems are often deployed for safety of life and high-level security purposes, so any proposals to re-allocate this important spectrum band must be carefully considered, and as with other areas of spectrum considerations, viable alternative spectrum would have to be identified if a change was confirmed. This would have significant impact on the PMSE sector; arguably more so than the previous 700 & 800 MHz clearances we have encountered.</p>
<p>Question 8: Do you consider that changes in the spectrum environment for the 450 MHz band mean that there is a case for re-examining whether this band should be reconfigured in the UK to align with the harmonised band plan?</p>	<p>Confidential? – Y / N</p> <p>We note that previous considerations by Ofcom of aligning the 450 to 470 MHz band with Europe has always concluded that this would be too difficult and too expensive. In your 2016 statement (on the review of UHF Band 1 and Band 2) you said that band alignment would not</p>

	<p>be considered again unless there was significant, and material change to the spectrum environment which would necessitate regulatory intervention. It is not clear that there has been significant change to the spectrum environment to necessitate reconsideration of band alignment other than this CFI, but it is noted that there would be a need to align with the harmonised (European) band plan and the 3GPP standard. In order to be able to provide a more informed view on this Ofcom would need to provide more detailed analysis.</p> <p>It is most likely that some sectors will not realise that they are impacted by the changes suggested in the CFI. BEIRG suggests that Ofcom organises a stakeholder event to encourage as many industries as possible to hear from Ofcom and have their input – we would be happy to help publicise and encourage attendance amongst the PMSE community.</p>
<p>Question 9: Do you have any comments on our overview of the 700 MHz band in GB and NI? Please consider the specific factors we have discussed in your response.</p>	<p>Confidential? – Y / N</p> <p>Ofcom notes the potential constraint on the 700 MHz band due to the risk of interference from adjacent SDL transmissions. One possible option to mitigate this risk would be to use part of the SDL spectrum as a guard band to provide sufficient protection to the utilities’ network. This would impact the SDL licensee so a full impact assessment would be needed, noting that few if any devices support the 700 MHz SDL option and the band remains unused. This could lead to a more efficient use of the 700 MHz band than might be the case if the full SDL allocation remains.</p>
<p>Question 10: Do you have any comments on our overview of the 800/900 MHz band in NI? Please consider the specific factors we have discussed in your response.</p>	<p>Confidential? – Y / N</p> <p>No comment</p>

Question 11: Do you have any comments on our overview of the 1900 MHz band in GB and NI? Please consider the specific factors we have discussed in your response.

Confidential? – Y / N

The DECT band (1880 to 1900 MHz) is extensively used by PMSE for intercom systems. The band became increasingly used after the reallocation of the 700 MHz band to mobile wireless broadband as this PMSE application had to move out of the remaining 470 to 694 MHz band in order to allow the spectrum to be used for wireless microphones and in ear monitors.

Recent developments of products like Riedel's Bolero have led to a huge increase in the use of the DECT spectrum for wireless communications, with multiple devices being used across sites such as Wimbledon but also across a significant proportion of theatre productions where 20-30 belt packs per show are deployed, in what has to be considered in 'safety of life' scenarios.

These systems are often deployed for safety of life and high-level security purposes, so any proposals to re-allocate this important spectrum band must be carefully considered, and as with other areas of spectrum considerations, viable alternative spectrum would have to be identified if a change was confirmed. This would have significant impact on the PMSE sector

We note that Ofcom does not mention the risks of adjacent channel interference from the 1900 MHz band into the DECT band. What is your assessment of the risk to adjacent users below 1900 MHz?

Question 12: Which band(s) do you consider we should examine further with a view to developing consultation proposals to enable their use in a private network, if this were needed? Please reference the factors we have considered where appropriate and provide separate answers for GB and NI if relevant.

Confidential? – Y / N

From the information provided in the CFI, it seems like the most challenging option for a reallocation of spectrum to the utilities sector is the 450 to 470 MHz band, particularly when there is unused spectrum available in other bands. The level of disruption to all users in the band and the need to align with the European harmonised band plan and 3GPP standard for LTE Bands 72 and 31 suggests that this option is not credible.

Given the spectrum alternatives listed, it seems appropriate that the best options lie in spectrum that is currently unused, i.e. the 1900 MHz

	and/or the 700 MHz bands. If the 1900 MHz band becomes a favoured option, then studies will be needed with DECT systems below 1900 MHz to ensure coexistence.
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