

## Your response

Question	Your response
<p><b>Question 1: Do you agree with the prioritisation of the agenda items, as shown in Annex 5, and if not why?</b></p>	<p>Confidential? – Y / N</p>
<p><b>Question 2: Ofcom is supporting the following three priority bands for IMT identification in the RRs:</b></p> <ul style="list-style-type: none"> <li>24.25 – 27.5 GHz</li> <li>40.5-43.5 GHz (as part of a wider global 37-43.5 GHz tuning range)</li> <li>66 – 71 GHz</li> </ul> <p><b>If you don't agree with any of these bands, or think we should be promoting other bands, please provide justification for your views.</b></p>	<p>Confidential? – Y / N</p>
<p><b>Question 3: What are your views on the suitability of the currently identified bands for HAPs and do you think there is a requirement for additional spectrum? Recognising that we support 26 GHz as a global band for IMT under agenda item 1.13, what are your views on the bands currently under study for HAPs, both globally and in ITU-R Regions?</b></p>	<p>Confidential? – Y / N</p>

**Question 4: What are your views on the bands within scope of Agenda Item 1.16 and their suitability for Wi-Fi and Wi-Fi like services? Do you agree that Ofcom should support the CEPT position of No Change? If not, please provide evidence to support your view.**

Yes, we agree that Ofcom should support the CEPT position of No Change. Omnispace's comments on agenda item 1.16 are confined to the 5150-5250 MHz band, which is allocated to the fixed-satellite service (Earth-to-space) and limited by **No. 5.447A** to feeder links of non-GSO satellite systems in the mobile-satellite service. Omnispace is currently using the 5150-5250 MHz band for feeder links and telecommand under the ICO-P U.K. satellite network filing.

Agenda item 1.16 calls for studies to look at possible outdoor use of wireless access systems, including radio local area networks (WAS/RLAN), under the existing primary mobile allocation in the band 5150-5250 MHz, which is restricted to indoor use in most of the world. Several ITU studies have shown that allowing outdoor use of the RLANs in the 5150-5250 MHz band will cause unacceptable interference into feeder links of non-GSO systems in the mobile-satellite service operating in this band. An MSS operator's measurements have shown that there has been a significant increase in interference in its feeder uplinks when rules permitting higher power outdoor usage were implemented in some countries.

As the studies and empirical evidence show unacceptable interference to MSS receivers from higher power outdoor RLANs, Omnispace is concerned about the potential impacts of outdoor RLANs to its feeder links and telecommand and urges the United Kingdom to support a No Change proposal for this agenda item.

**Question 5: Do you agree that UK support the inclusion of the updated Recommendation M.1849-1 ("Technical and operational aspects of ground-based meteorological radars") in footnote No.5450A? What are your views on the requirement to include a reference to ITU-R Recommendation ITU R M.1638 1 in footnotes No.5447A and 5.450A and the potential impact upon Wi-Fi (and similar technologies)?**

Confidential? – Y / N

**Question 6: Do you agree that UK support a position of not making changes to the Radio Regulations to reference specific bands for M2M/IoT usage?**

Confidential? – Y / N

**Question 7: What are your views on the potential removal of the limitations listed above?**

Confidential? – Y / N

**Question 8: What are your views on the approach we are proposing to take in respect of ESIMs and are there any additional factors that you think we should take into account?**

Confidential? – Y / N

**Question 9: What are your views on the establishment of regulatory provisions, in Article 22, that cover non-GSO operation between 37.5 and 51.4 GHz?**

Confidential? – Y / N

**Question 10: What are your views on the various issues under consideration under Agenda Item 7, particularly in respect of the bringing into use of non-geostationary satellite networks (i.e. Issue A)?**

Agenda Item 7 issue A deals with the bringing into use (BIU) of frequency assignments to non-GSO systems and the possibility of adopting a milestone-based approach for the deployment of non-GSO satellite systems in certain frequency bands.

Omnispace supports the adoption of changes to the Radio Regulations based on the current practice for BIU of a frequency assignment of a non-GSO system as contained in the Rules of Procedures: at least one space station capable of transmitting or receiving that frequency assignment deployed on one of the notified orbital planes of the non-GSO system, irrespective of the notified number of orbital planes and satellites per orbital plane in the system, on or prior to the deadline for BIU. While there is widespread agreement on the definition of BIU for non-geostationary systems, there are different views concerning the length of the period during which such a satellite needs to operate in one of the notified orbital planes of the non-GSO system. If any period is specified by WRC-19, it should be no more than 90 days, the same period for BIU of GSO networks. Discussion on tolerances for orbital parameters in connection with BIU is immature and either flexibility or further study is warranted.

Omnispace is concerned about the uncertainty surrounding the many options under discussion for the milestone-based approach for the maintenance of the recording in the Master International Frequency Register (MIFR) of assignments to non-GSO systems. The proper functioning of coordination, notification, and due diligence mechanisms are at risk. Design considerations, deployment plans to meet customer demand, and variables such as the availability of launch vehicles and the number of satellites that will fit on a launch vehicle lead Omnispace to conclude that no single option is a reasonable fit for all situations. The probability of difficulties in the application of the Radio Regulations implementing the milestone approach, including those due to inconsistencies with other provisions of the Radio Regulations, is high and will lead to the need for extensive new Rules of Procedure.

For these reasons, Omnispace urges Ofcom to approach a milestone-based approach with the utmost caution and only in the frequency bands agreed for inclusion as provided in the draft CPM text for agenda item 7 issue A. The date of commencement of the milestone process should be no earlier than 1 January 2023 in order to give operators ample time to prepare and to incorporate the new procedures into the planning of the deployment of their new and existing constellations.

**Question 11: What are your views on Agenda Item 9.1.1?**

Omnispace, which operates in the 1980-2010 MHz and 2170-2200 MHz bands, supports the goals of Resolution **212 (Rev. WRC-15)** to ensure coexistence and compatibility between the terrestrial and satellite components of IMT. To that end, Omnispace supports limiting the power of mobile stations in the 1980-2010 MHz or limiting the mobile service use of this band to transmissions from user equipment to base stations (*i.e.*, as an uplink) in order to address the predicted interference from IMT terrestrial base stations to IMT satellites.

When the 1980-2010 MHz band is used for the terrestrial IMT user equipment to base stations, studies show compatibility may be achieved between the terrestrial and satellite components of IMT in different geographical areas. However, when the 1980-2010 MHz band is used for the downlink, studies show significant interference from IMT terrestrial base stations into IMT satellite receivers. In fact, ITU-R studies show that the aggregate interference from IMT terrestrial base stations into IMT satellite receivers in the 1980-2010 MHz band is predicted to exceed the protection criterion by more than 50 dB in the worst cases, which is more than mitigation measures alone could address. Moreover, the interference is not limited to adjacent countries, but is predicted when the satellite IMT deployment is up to 10,000 kilometres away from the terrestrial IMT deployment. The distance of the predicted interference is relevant because thousands of kilometres often surpasses the distance between two countries and includes other countries that may not share a geographical border. Indeed, Resolution **212** *invites* the ITU Radiocommunication Sector to study instances where the 1980-2010 MHz and 2170-2200 MHz bands are shared by the mobile service and the mobile-satellite service in *different countries*, therefore the agenda item should not be limited to those countries with a geographical border. Furthermore, there is no ITU coordination procedure in the Radio Regulations to address interference from terrestrial transmitters into receiving space stations in different countries.

Omnispace supports a mechanism to address this interference by using the 1980-2010 MHz band as the uplink for transmissions from terrestrial IMT user equipment to base stations, a frequency arrangement included in Recommendation ITU-R M.1036-5. This frequency arrangement is achieved by limiting the terminal transmitter output power delivered to the antenna of terrestrial IMT stations in the 1980-2010 MHz band to 23 dBm. This is the maximum power for user equipment indicated in ITU-R Report M.2292 (as well as 3GPP TS 25.101) and the basis for the studies for agenda item 9.1.1. This approach protects the satellite component of IMT from harmful interference while enabling the deployment of the terrestrial component of IMT and achieving the objective of the agenda item, the compatibility and coexistence of the two services.

	Omnispace urges Ofcom to take measures to limit the use of the 1980-2010 MHz band to terrestrial uplink transmissions.
<p><b>Question 12: What are your views on the potential establishment of satellite pfd limits, in the 1 452 – 1 492 MHz band, to protect terrestrial use?</b></p>	Confidential? – Y / N
<p><b>Question 13: Do you have any views on the bands being studied and are there any other considerations which you think should be taken into account? What are your views on the appropriateness of the current emission limits in the band 3 700 – 4 200 MHz?</b></p>	Confidential? – Y / N
<p><b>Question 14: Do you agree that no changes to the RRs are required, under Agenda Item 9.1.7, and that managing the unauthorised operation of earth station terminals (deployed within its territory) should be addressed by the national administration concerned?</b></p>	Confidential? – Y / N
<p><b>Question 15: What are your views on the need for additional fixed satellite service allocations in the band 51.4 – 52.4 GHz?</b></p>	Confidential? – Y / N
<p><b>Question 16: What are your views on Agenda Item 1.8, particularly the need to enhance maritime safety, set against the need to respect the international spectrum allocations and the protection of passive services in adjacent bands?</b></p>	Confidential? – Y / N

<b>Question 17: What are your views on Agenda Item 1.9.1, particularly the need to respect the current integrity of the AIS?</b>	Confidential? – Y / N
<b>Question 18: What are your views on Agenda Item 1.9.2, particularly the need to take into account current national users in the bands defined by RR Appendix 18?</b>	Confidential? – Y / N
<b>Question 19: What are your views on Agenda Item 1.10 and do you think that any changes to the Radio Regulations may be necessary?</b>	Confidential? – Y / N
<b>Question 20: What are your views on Agenda Item 1.11, and do you agree that no specific identification for rail communications is required in the Radio Regulations?</b>	Confidential? – Y / N
<b>Question 21: What are your views on Agenda Item 1.12 and do you agree that there is no requirement for specific identification to ITS in the Radio Regulations?</b>	Confidential? – Y / N

<b>Question 22: What are your views on Agenda Item 9.1.4 concerning radiocommunications for sub-orbital vehicles?</b>	Confidential? – Y / N
<b>Question 23: What are your views on Agenda Item 1.1, recognising that licensed amateur operators in the UK already have access to parts of the 50 – 54 MHz band?</b>	Confidential? – Y / N
<b>Question 24: What are your views on Agenda Item 1.2 concerning power limits for MetSat, Mobile Satellite and EESS, and the linkage to agenda item 1.7?</b>	Confidential? – Y / N
<b>Question 25: What are your views on Agenda Item 1.3, particularly on any limits required to protect terrestrial use?</b>	Confidential? – Y / N
<b>Question 26: What are your views on Agenda Item 1.7 considering spectrum needs for short duration satellites, noting also the potential linkages to Agenda Item 1.2?</b>	Confidential? – Y / N



<b>Question 27: What are your views on Agenda Item 1.15, particularly on the protection needs of passive services?</b>	Confidential? – Y / N
<b>Question 28: What are your views on Agenda Item 9.1.6, particularly on the categorisation of WPT and whether WRC action is required?</b>	Confidential? – Y / N
<b>Question 29: Do you have any comments concerning the Standing Agenda Items, where not covered elsewhere in this document?</b>	Confidential? – Y / N
<b>Question 30: Are you aware of any specific issues, not covered elsewhere in this document, which are likely to be raised in this part of the Director's Report and of which you think Ofcom should be aware?</b>	Confidential? – Y / N
<b>Question 31: Do you have any comments on Agenda Item 9.3 considering Resolution 80?</b>	Confidential? – Y / N

**Question 32: What changes to the Radio Regulations have you identified that would benefit from action at a WRC and why? Do you have any proposals regarding UK positions for future WRC agenda items or suggestions for other agenda items, needing changes to the Radio Regulations, that you would wish to see addressed by a future WRC?**

Confidential? – Y / N