Your response

Question	Your response
Question 1: What interest do you have in deploying outdoor or standard power Wi-Fi or other licence exempt RLANs in the Lower 6 GHz band? Please provide details of the types of expected deployments.	6 GHz standard power Wi-Fi would allow us to extend our current Wi-Fi network to cover the entire campus as well as certain indoor facilities. We expect 6 GHz Wi-Fi to provide greatly enhanced performance (higher user numbers, higher per-user throughput, higher availability, lower latency) compared to 2.4/5 GHz Wi-Fi.
Question 2: Are you interested in providing or developing AFC databases for use in the Lower 6 GHz band in the UK?	Not Applicable
Question 3: Do you have any views on the operational considerations of setting up and running AFC databases?	Not Applicable
Question 4: Do you have any views on how we should manage the approval process for AFC databases and, in particular, whether we should rely on parts of the FCC process rather than requiring the whole process to be re-run in the UK?	We believe that in order to minimise implementation cost and accelerate availability of standard power Wi-Fi solutions, Ofcom should as closely as possible follow established processes such as the FCC process.
Question 5: Please provide any other comments on our proposals for extending access to standard power Wi-Fi and outdoor use, including the overall approach, any details on technical parameters and the running of the AFC databases in this band.	AFC databases approved by Ofcom should comply with established standards (WInnForum, Wi-Fi Alliance) to enable swift deployment and ensure wide-ranging interoperability.
Question 6: Do you have any comments on our proposal to use a "phased" approach, or on the alternative to wait for European harmonisation?	We welcome and support Ofcom's proposal for a phased approach: · Phase 1: authorising low power indoor (LPI) Wi-Fi in the whole of the Upper 6 GHz as quickly as possible. · Phase 2: authorising mobile once the outcome of Euro-

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	pean harmonisation is clearer. We encourage Ofcom to authorise LPI Wi-Fi in the 6425-7125 MHz band before the end of this year. Considering that currently installed 6 GHz enterprise Wi-Fi equipment is capable of operating across the full 6 GHz band, we ask Ofcom to put measures in place to minimise certification/re-certification efforts for such equipment, when new firmware becomes available that enables operation in the upper 6 GHz band. Ofcom should not wait for the outcome of the European harmonisation process which will take years to complete and because of its intrinsic uncertainty prevent necessary investments in infrastructure.
Question 7: Do you have any comments on the above suggestion to manage any "legacy" Wi-Fi devices, or alternative suggestions?	We agree with Ofcom's assessment that the risk of "legacy" Wi-Fi devices creating interference to mobile would be small and manageable. Our enterprise Wi-Fi network is centrally managed, and its 6 GHz-capable components can be configured to comply with Ofcom's regulatory requirements.
Question 8: Do you have a view on the amount of spectrum that should be prioritised for Wi-Fi under the prioritised spectrum split option? Please provide evidence for your view.	Wi-Fi is a critical element of our networking and communication infrastructure. It is used for numerous purposes including lecturing, research, administration, facility management, and personal communications. Requirements to Wi-Fi connectivity are growing continually. When 150 students in an auditorium are using AR/VR glasses simultaneously and interactively, the amount of data to be transferred at very low latency is putting an enormous strain on the network. For this application alone, seven Wi-Fi channels of 160 MHz width, i.e. a total of 1120 MHz of spectrum would be required. There are also times when a group of students concurrently need to download large files, such as Virtual Machine ISOs which can consume valuable lecture time if not enough spectrum is available. While having the lower 6 GHz band available for Wi-Fi is

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	a major improvement, this will not be sufficient in the future when new and enhanced applications will further drive up both data consumption and generation and wired local area network infrastructure will increasingly be replaced by wireless. Ofcom's proposal to allocate an additional 160-400 MHz of spectrum to Wi-Fi will relieve Wi-Fi network congestion in the short to medium term but not in the long term. Higher education depends on the availability of affordable, yet reliable and performant wireless local connectivity, i.e., Wi-Fi. It cannot be replaced by mobile. If Ofcom should decide for a prioritized band split, it should be made sure that institutions of higher education that depend on the availability of reliable Wi-Fi services can obtain local spectrum usage rights in the mobile priority part of the Upper 6 GHz band.
Question 9: Do you have any comments on our plan for a "phase 1" when Wi-Fi will be introduced?	We strongly support Ofcom's proposal to authorise low power indoor (LPI) Wi-Fi operation in the 6425-7125 MHz band in Phase 1. We encourage Ofcom to launch Phase 1 as quickly as possible, ideally before the end of this year.
Question 10: One variation on "phase 1" would be to only authorise Wi-Fi in client devices to "seed" the market. Would you have any views on this, or suggestions for other variations?	To be able to use the additional capacity made available by the Upper 6 GHz band, it will be essential that operation of 6 GHz-capable access points is authorised, as well. Therefore, we encourage Ofcom to authorise operation of 6 GHz-capable LPI access points from the beginning, under the same conditions as those applicable for the 5925-6425 MHz band. We believe that authorising AP operation will have a stimulating effect on demand and supply of 6 GHz-capable Wi-Fi clients which will result in greater choice and lower prices.
Question 11: Do you have any comments on our plan for a "phase 2" when mobile will be introduced?	We agree with Ofcom's proposal to wait with introducing mobile to the upper part of the Upper 6 GHz band until the situation of European harmonisation becomes clearer. By 2030, when Phase 2 could be launched, it will also be clearer whether a 6 GHz mobile ecosystem has developed and whether there is any actual demand for additional spectrum for mobile services.

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Question 12: Do you have a view on the amount of spectrum that should be prioritised for mobile under the prioritised spectrum split option? Please provide evidence for your view.	Currently, we do not see a need for allocating additional spectrum in the Upper 6 GHz band for public mobile networks. While we see the potential for future deployment of private mobile networks, we believe that the 3.8-4.2 GHz band available in the UK is best suited for this purpose. Furthermore, there is ample mobile spectrum in the millimetre wave bands which can be used to provide high-capacity wireless connectivity in congestion hot spots.
Question 13: Do you have any evidence or views about the geographical extent of mobile networks' likely deployment in Upper 6 GHz?	Given the absence of convincing use cases and spectrum needs assessments for public mobile networks, we find it very difficult to estimate the geographical extent of mobile networks' deployment in the Upper 6 GHz band. Judging from information about areas of mobile network congestion that was published by Ofcom earlier, it appears that only very small geographical areas, mostly in dense urban environments, are affected.
Question 14: Do you have any comments on our proposed phased approach to authorisation of both Wi-Fi and mobile in the Upper 6 GHz band?	Most of the premises on which we operate Wi-Fi networks are located in urban and dense urban areas. To be able to continue operating our Wi-Fi networks which may be using the entire Upper 6 GHz band by the time mobile becomes authorised, we would expect Ofcom to put regulatory tools in place that ensure uninterrupted operation of these networks. In the interest of an efficient use of spectrum, mobile licensees should not be given access to the same spectrum block across all high-density areas. Spectrum blocks in each high-density area should be awarded separately.
Question 15: Do you have any comments on our proposal to not include very low power portable devices in the Upper 6 GHz band at this stage, but to keep this under review?	We have no objection to Ofcom's proposal to not include very low power portable devices in the Upper 6 GHz band at this stage.
Question 16: Do you have any comments on our proposal to authorise the use of low-power indoor Wi-Fi access points and client devices to use	We strongly support Ofcom's proposal to authorise the use of low-power indoor Wi-Fi access points and client devices in the 6425–7125 MHz band. We encourage Ofcom to implement this

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6425–7125 MHz?	authorisation as quickly as possible, preferably before the end of this year. This would allow us to significantly enhance the functionality and maximize the value of our existing and planned 6 GHz Wi-Fi infrastructure.
Question 17: Do you have any comments on the proposed technical conditions?	We agree with the proposed technical conditions.
Question 18: Do you have any comments on the proposed VNS draft?	We appreciate Ofcom's proposal for a UK Voluntary National Specification (VNS). We recommend Ofcom actively participate in the work on the 6 GHz standard EN 303 687 conducted by ETSI TC BRAN to ensure that the respective 320 MHz channel plans are aligned. Current Draft EN 303 687 v1.1.6 contains a channel plan which is different from the options shown in Fig. A3.1 of the Ofcom consultation document. Furthermore, we would like to point out that Draft EN 303 687 v1.1.6 contains a provision for the use of dedicated antennas on 6 GHz equipment. A dedicated antenna is defined as an "antenna external to the equipment, using an antenna connector with a cable or a wave-guide and which has been designed or developed for one or more specific types of equipment". We recommend that in a new VNS, Ofcom considers authorizing external antennas for certain enterprise 6 GHz access points.
Question 19: Do you have any suggestions for an appropriate mechanism for enhanced sensing, or comments on the proposed solution above?	We are not opposed to introducing a sensing mechanism if it makes spectrum sharing more efficient, provided that implementation of this mechanism does not increase Wi-Fi product cost, delays the introduction of new products, or reduces system performance. We would like to point out that in bands where dynamic frequency selection (DFS) must be applied, Wi-Fi performance can be negatively affected because of false positives. We believe that reliable alternative approaches may exist that do not require sensing, e.g., geolocation in combination with remote management of Wi-Fi gateways/routers. We recommend Ofcom evaluate also

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	these alternatives when entering Phase 2.
Question 20: Do you agree with our proposal to restrict Wi-Fi from transmitting in the 6650-6675.2 MHz band to protect the radio astronomy service? Please provide any technical evidence to support your view.	We acknowledge that radio astronomy is an important service which must be protected. We agree with Ofcom's proposal to restrict Wi-Fi from transmitting in the 6650-6675.2 MHz band during the initial phase of opening the Upper 6 GHz band for Wi-Fi use. At a later stage, Ofcom may want to consider the use of AFC to protect radio astronomy sites whilst enabling use of the 6650-6675.2 MHz band by Wi-Fi where possible.
Question 21: Do you agree with our assessment of Wi-Fi coexistence with existing users of the band? If not, please provide details.	We agree with Ofcom's assessment of Wi-Fi coexistence with existing users of the band. Sharing studies conducted by CEPT and others have demonstrated that Wi-Fi can share the Upper 6 GHz bands with incumbent users.
Question 22: Do you have any evidence about the costs to operators of moving fixed links in and around "high density" areas (such as urban centres) to other bands?	We are not in a position to respond to this question.
Question 23: Do you have any comments on our initial assessment of our likely approach to coexistence between future mobile use and current users in the Upper 6 GHz band?	Concerning the coexistence of mobile with fixed satellite we would like to point out that the mask agreed at WRC-23 was calculated on the basis of a certain number of mobile base stations deployed within a satellite's coverage area. As the deployment assumptions made in current coexistence studies conducted by CEPT are significantly different from those made at WRC-23, Ofcom should not include this mask in the technical licence conditions for mobile before verifying its validity under the updated deployment assumptions.
Question 24: Do you have any other comments on our policy proposals or any of the issues raised in this document?	Once again, we would like to express our appreciation for Ofcom's pro-active and pragmatic proposals to authorise outdoor and standard power Wi-Fi plus AFC and to make additional spectrum in the 6 GHz band available for Wi-Fi use. We hope to see positive policy decisions by Ofcom later

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	this year, and we are looking forward to responding to specific consultations when they get published. Wi-Fi is and will remain essential for running our networks reliably and in a cost-effective way, and having the full 6 GHz band available for Wi-Fi will allow our business to remain competitive in the short, medium, and long-term.