Your response

Question	Your response
Question 1. How do you think demand for Shared Access is likely to change in future and why; Which use cases do you think are likely to emerge or grow, and which decline? Please provide a view on the bandwidth you would consider the minimum and optimal requirement for growth use cases, and timelines you would expect for their development	*Is this response confidential? – Partial* • The shared access framework is an innovative approach likely to be more prevalent in the coming years. Many European countries are taking a similar approach in the 3.8-4.2 GHz band after the European Commission's mandate to study the feasibility of sharing. Once Ofcom automates the licensing process, more licensees may emerge. However, we believe current licensing conditions are too restrictive for new users seeking to use the framework to explore new and innovative use cases in their industry and settings. For instance, the urban-rural definition as defined by the Office for National Statistics based on the population may restrict some users from deploying. • Relaxing the licensing conditions, such as power restrictions and rules related to the urban-rural definition, will incentivise more users to use the spectrum. This will increase the demand for equipment in this band and enable ecosystem development which will help the market to drive in the direction Ofcom anticipated. Therefore, flexibility must be given at least to the users in areas with a low probability of interference to maximise the opportunity for experimentation and innovation in use cases. • MPNs add significant value to provide coverage and capacity for

consumers. Airports are usually challenging environments to provide coverage due to the various restrictions of deployments. i.e. height restrictions for mobile sites. For this reason, public mobile networks often struggle to provide sufficient coverage and capacity due to the large volume of subscribers. Complementary deployments such as private networks add value in these environments to enhance the coverage and capacity, and enable the ability to introduce new use cases.

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Question 2. Are there elements of the current framework that complicate the use of Shared Access licences for specific use cases? If so, please provide specific examples and indicate the changes that would be required to facilitate this and how this might co-exist with other use cases.	*Is this response confidential? – No* • The existing urban-rural definition makes sense for public mobile networks, where deployments are usually concentrated in densely populated areas, i.e. residential areas and urban city centres. However, MPNs tend to cater for different use cases compared to public mobile networks. Therefore, the deployment of multiple MPNs may not necessarily be concentrated in densely populated areas. For instance, factories are usually located away from populated city areas. Therefore, the urban-rural definition used in public mobile networks may not work for all cases. • Airports are usually located away from busy urban city centres and with the airport operator owning and managing their land and those

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[1] Papagiannopoulos et al., "5G mobile networks for airports: Supporting the digital transformation", Journal of Airport Management, Volume 17 number 2, April 2023.

	making use of it. Therefore, private network deployments in airport environments, that are additional to that of the airport operator themselves, will be limited. Hence, the likelihood of a single medium power base station sterilising the use of shared access spectrum for many other potential low-power users is less likely to occur. For such cases, Ofcom should provide flexibility for potential users to make the best use of this band.
	• We would also like to highlight that the available spectrum of approximately 400 MHz is sufficient to avoid co-channel deployment.
	• Further, the geographic separation required between other public land and buildings and our airfield (including the runway and airport premises) will be sufficient for interference mitigation between different systems in most cases. Where required, directional and tiltable antennas can help further to minimise interference.
	• We would also highlight that emerging technologies such as 4G/5G systems are designed to manage interference using inherent technical features such as Inter-Cell Interference Coordination (ICIC) and Enhanced ICIC (eICIC). These technologies are robust and have been designed with cochannel use in mind. Further, dynamic power control and active antenna use reduce the effects of co-channel interference. These features will come into play in the case of interference so that the system has minimal impact.
Question 3. Do you have any comments on the power restrictions currently in place, particularly in urban/high density areas, under the Shared Access licence? Please explain what	*Is this response confidential? – No*

benefits could be delivered using a higher operating power (e.g. medium power in urban areas), or any concerns you sharing with such operations).	• As stated in response to the earlier questions, we do not feel that apply power restrictions based purely on an urban or rural classification makes the best use of the valuable shared access spectrum, particularly in airport environments.
	• Large campus areas such as airports and ports must cover larger areas and are usually away from the other urban city centres. As Ofcom stated in the consultation document, these exception requests can be considered case by case. MAG is willing to invest and use the spectrum to bring immediate innovation in use cases and benefits to consumers. However, restricting a willing user by anticipating a future use in an area where wider deployments are less likely to occur is not an efficient use of spectrum.
	• Low power deployments with a 50m radius do not provide a viable business case for airport deployments, i.e. they will be prohibitively expensive for businesses, like airports, requiring to cover large, open campuses. In addition, there are safety related and practical restrictions on the placement and height of antennas and supporting structures that can be placed in an airport setting. Rather than the general definition of rural-urban definition, spectrum users would benefit significantly if Ofcom considered medium power base stations based on the spectrum demand in the local environment.
Question 4. Do you have any comments on the exceptions process, and how some of its benefits could be maintained within more standardised and automated assessments?	*Is this response confidential? – Y / N (delete as appropriate)*

Question 5. Do you have any views whether and how the coordination approach should be modified? If yes, please provide comments in light of the issues set out above.	*Is this response confidential? – Y / N (delete as appropriate)*
Question 6. Do you have views on whether newer or emerging technologies can support coexistence between additional users in the band, and if so, how?	*Is this response confidential? – Y / N (delete as appropriate)*
Question 7. Please outline any comments on the current licensing process (e.g. ease of application, time taken, the information we require). If relevant, please note aspects you are currently content with and areas which could be improved.	*Is this response confidential? – Y / N (delete as appropriate)*
Question 8. Do you have any comments on the suitability of available spectrum for your use cases? Please consider the relevance of the additional bands we are proposing for the framework, and the impact of any limitations on existing bands.	*Is this response confidential? – Y / N (delete as appropriate)*
Question 9. Do you have any comments on equipment availability limiting deployment options in 3.8-4.2 GHz? Please comment on the impact of any experiences you have had, and where relevant, your expectations for when more equipment will be broadly available across the band.	*Is this response confidential? – Y / N (delete as appropriate)*
Question 10. Do you have any other general comments on the Shared Access framework? Please consider any areas where future innovations could further support Ofcom's policy objectives for this spectrum, and/or improve the experience for users.	*Is this response confidential? – Y / N (delete as appropriate)*

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