# Your response

| Question | Your response |
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| **Questions for stakeholders that are interested in using 2 GHz MSS** | |
| **Question 1**: Which service(s) do you wish to provide using 2 GHz MSS spectrum? When do you expect that you could provide these services, and what UK geography would these services cover? Where applicable, please provide evidence to support your response (including but not limited to): business plans, internal market forecasts, board papers, analyst reports, etc. | Confidential? – Y |

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| **Question 2**: Please explain any barriers to your deployment of a service and your plans to address them. | Confidential? – N<br><br>Despite the increasing strategic relevance of the 2 GHz Mobile Satellite Service (MSS) band, several enduring barriers continue to impede the entry of new operators into the European market. These challenges not only restrict competition but also limit the pace of innovation and the diversity of services available to end users.<br><br>**Limited Spectrum Availability for New Entrants**<br><br>One of the most pressing obstacles is the lack of accessible spectrum for new market participants. Under the current licensing framework, it is effectively impossible for a new entrant to secure spectrum rights in the 2 GHz MSS band across Europe. This scarcity of assignable spectrum creates a closed market environment, stifling innovation and deterring investment in novel MSS platforms and services. Without a transparent and equitable mechanism for spectrum access, the potential for market dynamism and technological advancement remains severely constrained. |

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| | **Cross-Border Signal Propagation and Licensing Complexity**<br><br>Satellite signals naturally extend beyond national borders, making cross-border coordination a fundamental requirement for successful MSS operations. In the absence of harmonised licensing frameworks, operators face regulatory uncertainty and potential interference issues when deploying services that span multiple jurisdictions. This complicates service planning and increases administrative overhead. A more integrated and cooperative licensing regime ideally coordinated at the EU level would streamline operations, reduce regulatory friction, and support the seamless provision of MSS services across Europe.<br><br>OQ Tech strongly supports efforts to address these barriers through targeted regulatory and technical reforms. We endorse the following measures:<br><br>• Establish a transparent and equitable process for spectrum assignment, enabling new operators to access the 2 GHz MSS band and contribute to market diversity.<br>• Introduce periodic reviews of spectrum usage to identify underutilised allocations and facilitate reallocation or sharing mechanisms that optimise spectrum efficiency.<br>• Explore dynamic spectrum access models, such as leasing arrangements or secondary markets, to lower entry barriers for emerging players and foster innovation.<br><br>In relation to cross-border coordination, OQ Tech is actively engaged in the development of advanced antenna technologies that enable narrower beam footprints. These innovations will facilitate more precise frequency coordination and reduce the risk of interference, particularly in scenarios where UK-only MSS services are deployed or authorised. Such technical solutions, combined with regulatory harmonisation, will be key to unlocking the full potential of the 2 GHz MSS band across Europe. |

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| **Question 3**: What benefits might be realised by enabling the service(s) you wish to provide through to 2032 (the short term)? Similarly, through to 2045 (the long term). | Confidential? – N<br><br>OQ Tech believes that enabling the full range of Mobile Satellite Services (MSS) in the 2 GHz band will deliver substantial and multi-dimensional benefits, both in the short term (by 2032) and in the longer term (through to 2045). These benefits align closely with policy priorities around connectivity, resilience, sustainability, and strategic autonomy.<br><br>In the short-term (up to 2032), MSS services in the 2 GHz band will allow for the rapid deployment of user-focused, flexible satellite solutions that address current connectivity gaps and emerging use cases. Key benefits include:<br><br>• Enhanced Connectivity Across Europe: MSS platforms can provide reliable coverage in rural, remote, and maritime regions where terrestrial networks are limited or economically unviable, supporting digital cohesion and reducing the digital divide.<br>• Support for Emerging Use Cases (such as low-data rate IoT/M2M applications agriculture, transport, and environmental monitoring; or PPDR enhancing emergency preparedness and response capabilities.)<br>• Resilience and Redundancy: MSS systems offer a vital backup to terrestrial networks, ensuring continuity of service during natural disasters, cyberattacks, or infrastructure failures.<br>• Stimulus for Innovation and Market Entry: A technology-neutral framework will encourage new entrants and foster innovation in satellite service design, business models, and user applications, and will support the space and satellite ecosystem in the UK<br><br>Looking further ahead (up to 2045), the strategic value of the 2 GHz MSS band will grow significantly as satellite technologies evolve and integrate more deeply with terrestrial networks.<br><br>Long-term benefits include: |

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| | • Integration with Future 6G Ecosystems: MSS platforms will play a key role in enabling non-terrestrial network (NTN) components of 6G, supporting seamless global connectivity and advanced mobility use cases.<br>• Environmental Sustainability: Satellite networks can reduce the need for extensive terrestrial infrastructure, lowering the environmental footprint of connectivity solutions and supporting smart resource management.<br>• Strategic Autonomy and Sovereignty: By fostering European-led MSS platforms and reducing dependence on non-EU infrastructure, the band contributes to the EU's digital sovereignty and leadership in the global satellite economy.<br>• Continued Innovation and Economic Growth: The long-term availability of the band will support sustained investment, job creation, and the development of new services across multiple sectors. |
| **Question 4**: Please explain what you consider would be the appropriate licence period for the service(s) you wish to provide? Please explain why, including providing evidence, such as asset use life, where applicable. | Confidential? – N<br><br>OQ Tech recommends that the licence period for services operating in the 2 GHz MSS band should be aligned with the long-term investment of satellite systems. Specifically, we propose a minimum licence duration of 10 to 15 years, with the option for renewal subject to compliance and continued service provision.<br><br>A licence period of that duration is essential to:<br><br>• Ensure a stable regulatory environment for long-term capital investment.<br>• Support financing and insurance arrangements, which typically require predictable spectrum access over the full asset life.<br>• Enable full amortisation of development and deployment costs.<br><br>A shorter licence period would introduce uncertainty, potentially disrupting service delivery and deterring investment in infrastructure and innovation.<br><br>OQ Tech also supports the inclusion of mid-term review mechanisms within the licence framework to assess |

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| | spectrum efficiency, service performance, and compliance. This would allow Ofcom to maintain oversight while giving operators the certainty needed to plan and invest over the long term. |
| **Question 5**: What is the minimum amount of spectrum you would need to provide your service(s) to deliver a basic service to customers? What additional service features and/or customer numbers could you meet with a larger allocation (please specify the amount of spectrum)? Please include details of any guard bands that you would consider necessary within this spectrum for coexistence purposes. | Confidential? – Y |
| **Question 6**: For each service, please explain why you wish to use 2 GHz MSS. Please explain why this is a more suitable frequency compared to alternatives. | Confidential? – Y |

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| **Question 7**: To what extent are there economies of scale across the UK and the EU for each service you wish to provide? What is the minimum number of users/devices you would need for each service to be economically viable? | Confidential? – Y |

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| **Question 8**: For the service(s) you wish to provide in the UK, what is the extent and nature of potential technical coexistence issues with other jurisdictions, particularly the EU? What are minimum satellite beam footprint sizes that you consider feasible, and what cross-border sharing conditions do these facilitate? | Confidential? – N<br><br>For the MSS services OQ Tech intends to support in the UK, technical coexistence with neighbouring EU jurisdictions is a key consideration due to the nature of satellite signal propagation. Satellite beams inherently extend beyond national borders, which can lead to signal spillover and potential interference if not properly coordinated. This is particularly relevant in coastal regions and areas near the UK–EU boundary.<br><br>With advancements in antenna technology and beamforming, we consider minimum feasible satellite beam footprints to be in the range of 200–300 km in diameter. These narrower beams allow for more precise geographic targeting, enabling UK-only deployments while minimising unintended coverage in adjacent EU territories. Such beam control facilitates cross-border sharing conditions by reducing the likelihood of harmful interference and supporting frequency reuse across jurisdictions.<br><br>Importantly, as technology continues to evolve, we anticipate that beam footprints will shrink further—potentially to below 100 km. This will significantly enhance the ability to localise coverage and reduce coordination burdens. |
| **Questions for stakeholders not interested in using 2 GHz MSS** | |
| **Question 9**: What service(s) do you think could use 2 GHz MSS in the UK? What benefits do you think these services could provide, and how much spectrum do you consider these services require to (i) deliver basic services, and (ii) to deliver more advanced services? | Confidential? – Y / N |

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| **Questions for all stakeholders** | |
| **Question 10**: Overall, to what extent does demand for 2 GHz MSS spectrum to provide services in the UK relate to demand for spectrum to provide 2 GHz MSS services in the EU (and vice versa)? | Confidential? – N<br><br>Demand for 2 GHz MSS spectrum in the UK is closely interlinked with demand across the EU, and vice versa. Satellite services especially those involving provision of mobility services are inherently transnational. Operators typically design systems to serve broad regional footprints, and the economic viability of these services depends on achieving scale across multiple jurisdictions. Shared demand across the UK and EU enables more efficient spectrum use, supports harmonised service offerings, and reduces per-user costs through common infrastructure and standardised devices. Fragmented licensing or regulatory approaches would increase complexity, limit market access, and undermine investment incentives. |
| **Question 11**: Do you consider there would be any benefits or risks from aligning with the EU regarding the types of 2 GHz MSS services being authorised, as well as the specific operators licensed to operate? | Confidential? – N<br><br>While a pan-European MSS system operating in the 2 GHz band can achieve commercial viability without including the UK, a system designed to serve the UK alone is unlikely to be economically sustainable. The scale, diversity, and demand across the EU market provide the necessary user base and operational efficiencies to justify investment in satellite infrastructure and service deployment. In contrast, the UK market on its own may not offer sufficient volume to support the same level of innovation, affordability, or resilience. That's why OQ Tech strongly believes the UK should align with the EU not only in terms of the types of services authorised, but also in the licensing of operators. Such alignment would enable shared infrastructure, harmonised service offerings, and cross-border coordination—ultimately benefiting users across both jurisdictions and supporting the long-term viability of MSS services in the 2 GHz band. |
| **Question 12**: Do you have any other points that we should consider for our consultation on future proposals? | Confidential? – Y / N |