Introduction

techUK is pleased to provide its views on Ofcom's call for input for the Future use of the 2 GHz MSS band enabling satellite Direct-to-Device (D2D) services. We recognize the diverse interests surrounding access to the Mobile Satellite Service (MSS) bands for delivering MSS and D2D services. Our response seeks to highlight key considerations for techUK's members as reflected in this proposal.

techUK's position paper on Network Convergence highlights the transformative potential of integrating terrestrial and non-terrestrial networks (TN-NTN) into a cohesive "network of networks." This integrated approach offers a pathway to bridging the digital divide, unlocking new economic opportunities, and reinforcing the UK's leadership in global telecommunications.

The paper is the result of extensive engagement with stakeholders, including roundtables, workshops, consultations, and collaborative research with member companies from both the mobile and satellite sectors. It delivers key insights and practical recommendations to support the advancement of network convergence.

On the commercial front, the most immediate opportunities align with the current technology landscape. The 3rd Generation Partnership Project (3GPP) compliant new radio (NR) NTN (*i.e.*, wideband NTN) offerings provided through use of the 2 GHz MSS band can enable ubiquitous satellite-based connectivity to extend 5G coverage throughout the UK and provide advanced MSS services as well as narrowband IoT.

We provide comments in response to Ofcom's questions below.

Question	Your response
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? – No Some techUK members highlight the potential of deploying terrestrial mobile network infill backup. Ofcom's proposals to permit satellite usage in terrestrial mobile bands are welcome, but there is a need to ensure that UK mobile licensees don't "bleed" into neighbouring countries (and vice-versa) - to provide seamless capability at national borders MSS spectrum is an alternative. Some techUK members highlight the current live and growing usage of the band to provide MSS connectivity services to aircraft. These services are available and being used by aircraft, including those of British Airways, and millions of citizens travelling to and from the UK.

Question	Your response
Question 2: Please explain any barriers to your deployment of a service and your plans to address them.	Confidential? – No Some techUK members suggest that a coherent harmonisation of the spectrum use with neighbouring countries (i.e. the EU) is essential.
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? – No No comment.
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? – No No comment.
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? – No No comment.
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? – No No comment.
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	Confidential? – No No comment.

Question	Your response
need for each service to be economically viable?	
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? – No No comment.
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? – No Some techUK member(s) highlight that the 2 GHz MSS band presents a strong opportunity to support a range of services in the UK, particularly MSS and D2D satellite communications. D2D services are especially valuable in scenarios where terrestrial mobile networks are unavailable at the degree required by consumers. Existing MSS services will be able to benefit from the 3GPP standardisation efforts. As bandwidth increases to support 4G downloads and 5G services such as voice, web browsing, and video streaming, alongside broader developments across the satellite sector's value chain, this expanded coverage can enhance public safety and improve quality of life across the UK. Moreover, the availability of reliable mobile satellite connectivity can unlock wider economic benefits by facilitating access to rural and hard-to-reach locations for tourism, business, and government operations. Some techUK members highlight that the benefits of 2 GHz MSS spectrum can be fully realized if operators and their investors are able to recover the substantial investments necessary to deploy next-generation MSS networks and innovative D2D and IoT service offerings. UK and European telecommunication laws promote regulatory certainty to encourage long term investments. Existing operators providing a live service should be able to

Question	Your response
	benefit from 20+ years of license duration for electronic communication services. It is therefore critical that Ofcom seeks to harmonize spectrum with the EU and internationally. A harmonized approach creates larger markets, attracting more investment in new technologies and services. In this context, these techUK members also believe it is imperative for the UK to investigate the identification of additional spectrum for MSS at the World Radiocommunication Conference 2027. This would significantly increase the available pool of globally harmonised MSS spectrum and allow for additional service deployment. In the short term, enabling services through access to the 2 GHz MSS band will support the development of foundational infrastructure and service capabilities. Regulatory progress and maturing compliance frameworks will facilitate safe deployment of new services and universal coverage, facilitating D2D applications as well as applications such as uncrewed aerial vehicles (UAS), while connectivity via LTE/4G and 5G will enable bandwidth-intensive tasks. These developments will deliver immediate benefits for consumers as well as across sectors including logistics, emergency response, and enterprise operations, enhancing operational efficiency and service innovation. To support this growth, connectivity will be underpinned by terrestrial networks and satellite systems. However, no single network will be sufficient to meet the increasing demand for seamless mobile connectivity, underscoring the need for resilient, hybrid solutions that allow for complementary operations, and in some cases even integrate terrestrial and non-terrestrial networks. Looking ahead to 2045, the long-term benefits will be transformative. Seamless complementary operation or integration of terrestrial and satellite networks will be essential to support continuous, mobile connectivity for a diverse range of users and devices. This includes individuals living outside mobile broadband coverage, as well as those travelling between areas with inconsistent coverage who may rely on satellite fallback. Additionally, IoT devices that are permanently, or intermittently out-

Question	Your response
	side terrestrial coverage will depend on hybrid connectivity solutions to ensure resilience and operational continuity.
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? – No Some techUK members are of the opinion that the emergence of advanced MSS services is best achieved if larger regions maintain a coherent and harmonized approach to spectrum management. This is particularly pertinent considering the deep economic and service integration in Europe. These techUK members consider that demand in the UK, across a variety of service applications, will be very similar to demand in the EU, and vice versa, such that a strong level of harmonisation should be sought. The upcoming World Radiocommunication Conference 2027 (WRC-27) will be pivotal in this regard, with three agenda items (AI 1.12, AI 1.13, and AI 1.14) specifically focused on evaluating spectrum management issues related to D2D services. These discussions will influence the technical conditions under which cross-border sharing and coexistence can be facilitated. Coherent licensing of the 2 GHz MSS band will facilitate pan-European services. While the MSS ecosystem is well-established, there is increasing interest in supporting emerging applications. The quality of service for end users is closely tied to spectrum availability, the stability of frequency allocations, and the ability to manage interference effectively and in a timely manner. These factors are critical to ensuring reliable and scalable service delivery. Compared to other MSS bands such as L-band and Big LEO, the 2 GHz band offers distinct advantages. The band offers opportunities for D2D services, without the protection requirements for safety-critical operations in other bands. Furthermore, the band offers the largest contiguous spectrum that could be accessed for D2D on a multi-regional or global basis, supporting economies of scale and harmonisation across jurisdictions. Current operators in the band, including techUK members, have

Question	Your response
	publicly announced initiatives around providing advanced MSS services and/or D2D in the 2 GHz MSS band. One of these current operators recently announced selling its spectrum rights to another competitor. Therefore, the 2 GHz MSS band presents a promising opportunity to support innovative, resilient, and scalable satellite-enabled connectivity solutions.
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? – No techUK members support alignment with EU regarding types of 2 GHz MSS services being authorized. Harmonization improves equipment interoperability and reduces barriers to entry by lowering costs of operation. Hence, there is a concern within members of techUK to maintain a continued harmonisation with Europe and ensuring that the opportunity size across Europe is large enough to ensure that a vibrant ecosystem of chipsets, modules, and devices can develop. As outlined in response to question 10, some techUK members consider for there to be significant benefits from aligning with the EU regarding the types of 2 GHz MSS services being authorised. Furthermore, there are a growing number of opportunities to extract economies of scale across the UK and the EU for services delivered via the 2 GHz MSS band. The band (1980–2010 MHz and 2170–2200 MHz) is harmonised across the EU Members States, offering connectivity, including D2D connectivity, in remote and underserved areas and enabling machine-to-machine (M2M) and Internet of Things (IoT) applications, as well as providing aircraft connectivity. These services are increasingly important in meeting the rising demand for seamless, resilient communication across sectors. On the other hand, some techUK members comment that economies of scale across the UK/EU provide an opportunity for all mobile services.
Question 12: Do you have any other points that we should consider for our consultation on future proposals?	Confidential? – No No comment.