Your response

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Question 1: What is the market opportunity for D2D services? What is the nature of the benefits that could be delivered to people and business in the UK and what do you estimate the magnitude of the benefits to be?	Confidential? – N The market opportunity for D2D services in the UK is substantial, with benefits that could transform mobile communication across various sectors, ultimately driving economic growth and enhancing the quality of life for consumers. The implementation of D2D services can ensure users have connectivity through satellite regardless of location. D2D services enable seamless connectivity to mobile devices, providing high-quality services in both urban, suburban and rural areas. This is particularly beneficial for connecting underserved regions, thereby addressing existing connectivity gaps. This means that users in remote or challenging environments (such as maritime, aeronautical, or mountainous areas) can benefit from mobile communication.
Question 2: Are there any wider citizen or societal benefits that D2D services could deliver that the market might not deliver? What is the nature of these benefits and why might the market fail to deliver them? For example, what role could D2D have in improving the availability of 999 services in the UK?	Confidential? – N The societal advantages of D2D services stem from their ability to provide connectivity in scenarios where traditional terrestrial networks fail, thereby enhancing access to communication resources for emergency services and other critical functions. D2D services can significantly enhance the availability of emergency services, such as the 999 services in the UK, particularly in remote or challenging environments where conventional mobile networks are unreliable or absent, or during natural disasters when terrestrial networks might be disrupted. D2D services, more generally, can provide access to mobile devices for communities that are inadequately served by existing mobile infrastructure. This could ensure that people in rural areas have access to essential communication services, including emergency calls, thus fostering inclusivity and enhancing public safety.

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Question 3: Subject to suitable regulatory frameworks being in place, do you have an interest in offering D2D services or expanding an existing service, in the UK? Which customer segments, devices and use cases would be served? Would your D2D service complement or compete with services delivered over existing mobile?	Confidential? – N **Customer Segments**: D2D services could cater to a variety of customer segments, including: • Urban, suburban, and rural consumers who need reliable connectivity, particularly in areas underserved by terrestrial networks • Industries requiring communication in maritime, aeronautical, desert, archipelagic, and mountainous regions where traditional mobile services are lacking. • Consumers using mobile devices such as smartphones and IoT devices that could benefit from enhanced connectivity solutions **Devices:** Supported devices will be depending on implementation of D2D: • Implementing D2D in MSS bands entails mobile chipset vendors supporting relevant MSS frequencies and inter alia 3GPP Release 17. and later NTN air interfaces. It can also support various applications from broadband to IoT and offers services like highquality voice, rich messaging, videos and more. Supported devices include smartphones, wearables, IoT devices and more. • The D2D in MS bands aims at addressing already commercialised mobile handsets (i.e., UE pre 3GPP Release–17 specifications) by utilizing spectrum allocated to the Mobile Service (MS). **Use Cases:** D2D services would be suitable for various applications, including: • Voice, data, and messaging services that remain functional regardless of the user's location. • Emergency services and situations demanding robust and reliable connectivity. • Internet of Things (IoT) applications where seamless connectivity is crucial.
If you have considered launching or expanding a D2D service in the UK:	Confidential? – Y / N

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Question 4: What technology and network architecture do you consider appropriate to use to deliver D2D services? For example, what altitude and how many HAPS, LAPS or satellites would be required to deliver an initial service? **We're aware that different technologies and network architectures will have different costs, performance, and spectrum efficiency trade-offs**.	
Question 5: What capacity (e.g., Mbps/Km$_2$/MHz) and quality of service (e.g., latency) could be delivered with the D2D service you are proposing? What percentage of the UK landmass could be covered, and would coverage be provided indoors?	Confidential? – Y / N
Question 6: To inform our future policy development, which spectrum band would you like to deploy the service in? How much bandwidth would be required to provide the service at launch?	Confidential? – Y / N
Question 7: What take-up profile do you assume in your planning? For example, the number of active devices, monthly calls made, and data transferred per device. What is the roadmap for enhancing your network to meet anticipated future growth? What additional infrastructure and/or spectrum would be required? When?	Confidential? – Y / N

Question	Your response
Question 8: What are the use cases and the benefits these services would deliver? What technology, network infrastructure and frequencies would be required to deliver the service? What are the advantages of using this MSS spectrum compared to other bands?	Confidential? – Y / N

Question	Your response
Question 9: What current, or future, technology developments will offer the opportunity for more efficient use of MSS spectrum? E.g., more spectrally efficient, or greater ability to share spectrum.	Confidential? – Y / N
Question 10: Could your existing, or proposed, service coexist with other users of the same frequencies within the MSS spectrum bands? If so, how is coexistence achieved? If not, please explain why sharing is not possible.	Confidential? – Y / N
Question 11; Do you expect D2D services to be available prior to WRC-27? What services and benefits do you think an authorisation prior to WRC-27 might bring to UK consumers and businesses?	Confidential? – Y / N
Question 12: Are there any mobile bands that should be prioritised for satellite based D2D?	Confidential? – Y / N
Question 13: Are there existing systems that you consider could be subject to an increased risk of harmful interference from the introduction of satellite based D2D using mobile bands? If yes, are there specific mobile bands that you consider should be avoided to reduce this risk?	Confidential? – Y / N

Question	Your response
Question 14: Do you have any views on how spectrum for D2D services should be authorised? Does this vary by band, or type of NTN? Please explain the reasoning behind your preference.	Confidential? – Y / N
Question 15: Are there any other points that you think would be useful in our considerations? In providing	Confidential? – N GSOA recently published a paper examining two variants of satellite D2D applications. We invite OFCOM to consider the

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your response, please provide as much evidence as possible.	content of this paper and would be happy to respond to any related questions. https://gsoasatellite.com/wp-content/uploads/GSOA-D2DPaper-Aug-24.pdf

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