Your response

Question	Your response
Do you have any comments on our proposals?	Yes. Please see our responses to Ofcom's stated Goals and Priorities, and to specific items as presented in Annex A.2- Project Work for 2022/2023.
Investment in strong, secure networks.	Confidential? – Y / N DSA commends Ofcom for taking action to define strategic goals and priorities that will enable the digital society of the future to the benefit of UK citizens and businesses. DSA fully concurs with Ofcom that making reliable, affordable broadband internet and access to high-quality services available for everyone is of fundamental importance for the future digital society of the UK, and that gigabit-capable networks, based on fibre as well as other access technologies such as satellite, cable, and FWA will play a crucial role. We further agree that a world-class digital infrastructure will require that radio spectrum in managed in an efficient and effective way. An essential element of the future gigabit network that needs particular consideration is the final link that connects the user to the access network. If this link is weak, the network cannot be strong. DSA would like to highlight that this final link is increasingly realized by wireless connections, and specifically by Wi-Fi connections. According to the WFA, there are more than 16 billion Wi-Fi devices in use globally. Millions of consumers and businesses in the UK rely on Wi-Fi and they expect the performance of their Wi-Fi connections to evolve with that offered by the access network. To ensure that also in the future Wi-Fi, or RLAN in general, function as expected and users will be able to enjoy the possibilities brought about by future gigabit networks, a sufficient amount

	of licence-exempt spectrum must be made available. DSA calls on Ofcom to give due consideration to this important aspect in their Plan of Work 2022/23 and their strategy for realizing the UK gigabit society.
Enabling wireless services in the broader economy.	Confidential? – Y / N Ofcom's stated goals to enable more flexible and efficient use and increased sharing of spectrum are fully in line with the DSA's positions. Licence-exempt technologies such as Wi-Fi have successfully demonstrated their ability to share spectrum with other users. As the studies preceding the opening of the 6 GHz band for licence-exempt use in many countries showed, licence-exempt technologies can not only share spectrum but even enable growth for existing spectrum users. When licence-exempt spectrum was made available for wireless LANs almost 20 years ago, this sparked a wave of wireless innovation which benefited not only consumers but also business in many different domains. Wi-Fi, for instance, is widely deployed in health care, hospitality, logistics, transport, public venues, and industrial locations, including ports, factories, and agriculture. With the various improvements introduced with the latest generation of Wi-F (Wi-Fi 6/6E), such as increased bandwidth, lower latency, and lower power consumption, to name just a few, enterprises can benefit from more efficient network architectures and improved QoS. The next generation of Wi-Fi (Wi-Fi 7) which is scheduled for introduction in 2024, will bring further improvements which, to provide maximum benefits to UK consumers and businesses will require a sufficient amount of spectrum. The significance of Wi-Fi for UK consumers and businesses has been acknowledged by Ofcom in several studies including Improving Spectrum Access for Wi-Fi, July 2020, and the 2021 Mobile Matters Report.

	In addition to making a sufficient amount of license-exempt spectrum available, DSA also recommends that Ofcom take the next step in its efforts to make more spectrum available on a shared or lightly-licensed basis by automating its process for Shared Access Licenses, for example in the 3.8-4.2 GHz band. Automated dynamic shared access technology is readily available from multiple commercial providers and can greatly facilitate access by a wide variety of users. Automation can expedite the process for new users to evaluate opportunities for spectrum access and will help spur additional private wireless network deployments.
Mobile strategy.	DSA shares Ofcom's view that high-quality connectivity and innovation are essential for delivering good outcomes for consumers and citizens. DSA recommends that when defining its mobile strategy, Ofcom take into account the important role licence-exempt technologies, and specifically Wi-Fi, play in providing connectivity for mobile devices. The majority of traffic to and from mobile devices is transferred over Wi-Fi and not the cellular network. Without sufficient spectrum for Wi-Fi, mobile network deployments will have to become much denser to cope with the ever-increasing amounts of traffic, resulting in significantly increased capital and operational expenditures for MNOs. At the same time the increasing cost of living puts UK household budget for communications services under pressure, after overall household spend on communication services has already been decreasing over the past decade.
Database approach to spectrum management	DSA welcomes the Ofcom's initiative to consider innovative spectrum sharing techniques. We believe that systems such as Automated Frequency Coordination (AFC) can be very efficiently used to enable licence-exempt standard power RLAN to share a band with incumbent users, particularly in outdoor deployments. Given the inevitable complexity of database systems, their application should be carefully

	considered and limited to cases like the one mentioned above. Low-power indoor (LPI) RLANs, for instance, are generally able to coexist with other users and hence would not require coordination through a database. DSA is looking forward to providing detailed comments and suggestions to the dedicated Ofcom consultation planned for Q3 2022/23. Finally, DSA reiterates its support for automation of the Shared Access License framework that Ofcom has adopted. As mentioned above, automation will provide greater certainty, speed time to market for new users, and greatly facilitate the deployment of new private wireless networks.
Mobile spectrum demand.	DSA appreciates Ofcom's approach to take a long-term view and assess mobile spectrum demand beyond 2030. We concur with Ofcom's view that when assessing mobile spectrum demand the needs of consumers and businesses for local connectivity must be carefully considered. While making a sufficient amount of spectrum available for mobile use (5G/6G) is important, the characteristics and requirements of local connectivity must be considered. Studies showed that people in developed countries spend more than 90% of their time indoors. In line with that, more than 90% of data traffic is consumed or generated indoors. Providing indoor coverage from outdoor cellular base stations is problematic in several respects including increased energy consumption of both base station and client, reduced performance, and service cost. Wireless intra-network traffic would require an additional indoor wireless network or multiple cellular network termination points. Typically, the final link between the access network and the user ('local connectivity') is typically established via Wi-Fi. For users to be able to enjoy the benefits of future gigabit access networks, this final link must be adequately resourced, i.e., it must be able to

	utilize a sufficiently large amount of spectrum. This does not only apply to very high bandwidth applications such as AR/VR/XR which require large channels widths but also to lower bandwidth, high-density use cases such as IoT with thousands of communicating devices. Studies published by the WFA show that in order to extend the data rates provided by future gigabit access networks to the user, Wi-Fi needs an additional 1.2-1.8 GHz of spectrum. DSA appreciates that by opening the 5925-6425 MHz band for licence-exempt use, Ofcom already made a portion of the required spectrum available. To close the remaining gap, DSA recommends that Ofcom also make the upper 6 GHz band (6425-7125 MHz) available for licence-exempt use.
Upper 6GHz band.	DSA commends Ofcom for pro-actively studying options for opening the 6425-7070 MHz band for additional uses. We have recently published a whitepaper that explains the essential need for availability of the entire 6 GHz band to WAS/RLANs. As pointed out above, DSA believes the most efficient use of the 6425-7125 MHz band can be made by opening it for licence-exempt use. Given the similarities of the upper and lower 6 GHz bands w.r.t. usage by incumbent systems, we are confident that licence-exempt RLANs can be deployed in the 6425-7125 MHz band without affecting incumbents' operations. Coexistence studies on this matter will be conducted by ECC PT SE45 from March 2022. In acknowledgment of future capacity and performance requirements, numerous countries in all three ITU regions, including the United States, Canada, Brazil, Saudi Arabia, and South Korea already opened the entire 6 GHz band (5925-7125 MHz) for licence-exempt use. By joining these nations, the UK could benefit from a vibrant ecosystem and economies of scale. DSA would like to highlight that additional licence-exempt spectrum would not only benefit consumers but also, and very much so,

	businesses of all sizes, from SMEs to large corporations. The 6425-7125 MHz band is the only remaining piece of spectrum that could be reasonably used by licence-exempt RLAN. If this band was identified and eventually allocated to IMT, as envisaged in WRC-23 AI 1.2, there would be no spectrum available for RLAN when it will be needed. Finally, we would like to express our concerns about considerations for sharing the 6425-7125 MHz band between licensed and licence-exempt technologies. One of the issues we see is that to avoid interference between systems using different technologies, comparatively large separation distances might be required which could result in a highly inefficient use of spectrum.

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