Your response

Question	Your response
Introduction	**Executive summary response** Meta Platforms Ireland Limited (Meta) appreciates this opportunity to respond to Ofcom's call for input on "*UK preparations for the World Radiocommunication Conference 2023 (WRC-23)"*, and provides additional comments to the joint response provided by Broadcom Inc., Cisco Systems Inc., Hewlett Packard Enterprise (HPE), and others with further information focusing on the evolution of internet applications towards the Metaverse, in particular the rise of Augmented Reality (AR)/Virtual Reality (VR). The emergence of these new applications will depend on the availability of excellent local area and personal area connectivity, distinguishing the local connectivity requirements from the wide area connectivity requirements. AR/VR applications will rely on Wi-Fi in the 6 GHz for the foreseeable future. Countries allowing Wi-Fi in the full 5925-7125 MHz will have a significant competitive advantage. **Meta recommends Ofcom to support No Change (NOC) for the 6425-7025 and 7025-7125 MHz under WRC-23 Agenda Item 1.2.**
Question 3c: What is your view on the use of 6425-7025 & 7025-7125 MHz, and what evidence do you have to support this view? How does that inform your views on a IMT identification in these bands?	Confidential? – N Wi-Fi 6E and Wi-Fi 7 Very Low Power (VLP) and low power indoor (LPI) will be critical for personal area networks and local area networks. Wi-Fi VLP and LPI enable wide bandwidth, low latency and low complexity local connectivity. AR/VR devices require a level of technology integration significantly higher than smartphones. Battery, processing units, speakers and screen must be very compact to be integrated into headsets and glasses that can be worn comfortably. The devices must also achieve low energy consumption to respect the terminal thermal constraints. Local rendering, i.e. using a processing device in close proximity to the headset/glasses to perform the most complex computation, will enable more advanced graphics while maintaining low complexity and energy consumption for the AR/VR device itself. The rendering device can be for example a local PC, a set top box or a smartphone.

Local rendering is only viable if the link between the headset/glasses and the rendering device is both low complexity, low energy consumption and low latency. Wi-Fi 6E and 7 provide a combination of low complexity and very high bandwidth, enabling the device to wake up, transmit as much information as fast as possible and switch to sleep mode as soon as possible, leading to extremely energy efficient transmission. Furthermore, Wi-Fi in the 6GHz band supports latency much lower than the latency currently available on mobile networks.

Local rendering links will trigger significant requirements on the local area connectivity. Local traffic generated by local rendering will be significantly higher in volume and will have significantly higher QoS requirements than the wide area connectivity traffic. Furthermore, most of the wide area traffic is expected to be delivered over the fixed network, notably over fiber networks, which do not require spectrum. As a result of these two elements, it is expected that the local area traffic will grow much faster than the wide area traffic.

Wi-Fi 6E and Wi-Fi 7 will drive the next wave of internet innovation. In particular, Wi-Fi 6E and Wi-Fi 7 are the fundamental connectivity building blocks for the Metaverse by enabling local rendering.
Wi-Fi 6E and 7 will require a number of 160 MHz channels to support deployment in urban and suburban areas, as well as in professional environments (offices, manufactures, universities, etc).
Large deployments like the recent Michigan University 16 000 Access Points deployment obviously require more than 3 channels to distribute gigabit connectivity over large contiguous areas.
Furthermore, VLP devices will look for channels that are not occupied by LPI to operate without interference. Therefore, a single isolated household may already need 2 channels (one for LPI, another one for VLP–while classrooms and training centers will obviously need more).

The 6GHz band is the only band for gigabit LPI and reliable VLP. The 2.4 and 5GHz bands do not support 160 MHz channels while the 57-71 GHz band does not support sufficient coverage and reliability.

An IMT identification in the 6425-7025 or the 7025-7125 MHz would be detrimental to the widespread introduction of Wi-Fi in the full 6 GHz band. The benefits for IMT networks would also be marginal, due to compatibility reasons and lack of harmonization. Meta recommends Ofcom to oppose an IMT identification in the 6425-7025 and the 7025-7125 MHz band, as the band is critical to the UK's gigabit connectivity and AR/VR Innovation's potential

	Further consideration on the upper 6GHz band, in particular in relation to the WRC23 Agenda Item 1.2, can be found in our contribution to the European Union call for evidence on the WRC-23.