Your response

Question	Your response
We invite interested parties to consider the initial analysis we set out in this document and to let us know their own views.	Confidential? – N Eutelsat, one of the world's largest satellite operators, would like to thank Ofcom for the opportunity to comment on its Discussion Paper on Mobile networks and spectrum – Meeting the future demand for mobile data. Eutelsat wishes to express its views on this Discussion paper in the following paragraphs. Eutelsat is especially grateful to Ofcom for stating that "new spectrum is not the only way for network operators to increase capacity" (§5.1), and for taking into account the spectrum needs of other wireless technologies, such as satellites, wi-fi or LoRaWAN, in the Discussion paper (§2.13, §3.30 to §3.34). Eutelsat agrees with Ofcom "that existing mobile spectrum holdings and spectrum already planned for release are likely to be broadly sufficient to meet future demand to 2030, if MNOs were to (i) continue to upgrade network technology; (ii) make full use of their spectrum holdings; and (iii) deploy new mmWave spectrum on a densified network using small cells, in particular in busier areas." (§1.2). Considering other options than allocating new frequency bands to meet the future demand for mobile networks leads to a more efficient use of spectrum and avoids affecting other services. Eutelsat understands that Ofcom has planned to release spectrum for mobile network operators, following public consultation, in the 26 GHz band (24.25-27.5 GHz) and in the 40 GHz band (40.5-43.5 GHz), in accordance with international

	regulation and European harmonization (§5.18). Eutelsat invites Ofcom to take into account the protection of satellite services when allowing the deployment of mobile networks in these frequency bands. Parts of the Ka-band (uplink in 27.5-30 GHz) and Q/V band (downlink in 37.5-42.5 GHz, uplink in 42.5-43.5 GHz) are adjacent or overlap these bands. Eutelsat would like to emphasize the need to ensure that these bands continue to be available for essential existing and future satellite services in the United Kingdom. This includes the protection of satellite services from adjacent band interference coming from mobile networks' base stations. As explained by Ofcom in §5.22 and §5.23, "any release of more spectrum for mobile for high power outdoor use would likely require to clear some further frequencies of current users", which is a very long and complex process that can deprive essential services of spectrum access. Eutelsat therefore encourages Ofcom to deploy terrestrial 5G services only in bands identified by ITU for International Mobile Telecommunications (IMT) that are outside of satellite services allocation, because of the difficult co-frequency sharing between IMT and satellite services. Among the additional frequency bands that the mobile industry is asking for is the upper 6 GHz band (6425-7125 MHz) (§5.24). The band 6425-7075 MHz is allocated to the satellite services and the 6725-7025 MHz band, in accordance with Appendix 30B of ITU's Radio Regulations, guarantees an equitable access to the geostationary orbit for all countries. Eutelsat invites Ofcom to take into account the satellite services needs when participating in the international

	preparations under agenda item 1.2 for WRC-23 on this topic. In §5.26, Ofcom "anticipates further consideration of a wider range of bands to enable mobile connectivity (including 6G), such as the 7-20 GHz range". Eutelsat would like to underline that the 7-20 GHz range includes frequency bands allocated to the satellite services – the Ku-band (10.7-12.75 GHz, 13.4-13.65 GHz downlink and 12.75-13.25 GHz, 13.75-14.50 GHz uplink) and Ka-band (17.3-20.2 GHz in downlink, 17.3-18.4 GHz in uplink). These bands have for decades been and continue to be fundamental for satellite services, to provide among others direct-to-home broadcasting services, connectivity services for enterprise networks, as well as broadband services to consumers and businesses. It is crucial that they remain available for existing and future satellite services. On the idea of allowing mobile networks to share spectrum with other users, with a local or low power use (§5.27, §5.84), Eutelsat believes it is critical that this type of approach does not constraint the existing and future developments of the other users of the band. As a consequence, Eutelsat recommends avoiding the introduction of mobile networks on a shared or localised basis in the frequency bands allocated to satellite services. If Ofcom nevertheless considers this option, Eutelsat urges Ofcom to limit the deployment of mobile networks to low power indoor stations. As a last comment, Eutelsat would like to thank Ofcom for mentioning in the Discussion paper the role satellites can play in the provision of broadband services, as well as backhaul services to extend the reach of mobile and fibre networks (§3.33 and figure 8). Eutelsat would like to

	highlight that geostationary satellites, and especially the last generation of high-throughput satellites, as well as non-geostationary satellites, can deliver high quality broadband services. EUTELSAT KONNECT satellite launched in 2020 is an example of geostationary high throughput satellite capable of providing high quality broadband services over Europe. Eutelsat will soon operate another very-high throughput satellite, EUTELSAT KONNECT VHTS, able to provide very-high speed Internet access throughout Europe. Eutelsat also invested into and partnered with OneWeb, paving the way on developing combined GEO/LEO connectivity solutions. Eutelsat hopes Ofcom will consider the above elements and looks forward to seeing the conclusions of this consultation. Eutelsat remains at Ofcom's disposal for further questions on this contribution.

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