

Your response

Question	Your response
<p>Question 1: Do you agree with our analysis of the case for regulatory intervention and our proposal to license satellite gateways to access 28 GHz spectrum in portions of the band not currently available for satellite gateways? If not, please provide reasons/evidence for your response.</p>	<p>GSOA strongly supports Ofcom’s proposal to open access to the portions of the 28 GHz band that are not currently available for satellite gateway use, including currently unallocated spectrum blocks in the Northern Ireland and London at 28.1925 – 28.3045 GHz paired with 29.2005 – 29.3125 GHz. The entire 28 GHz band is a core bands for satellite uplinks. It is critical for the industry that the entire 27.5-30 GHz is available for gateway operations. GSOA is of the view that gateway operations addressed in this consultation will not significantly constrain deployment of future users nor adversely affect existing users.</p> <p>With respect to the mechanism for enabling access to the 28 GHz band for satellite gateways, GSOA supports the process for Ofcom to directly licensing satellite gateways to access the portions of the 28 GHz band that are currently authorized on a national or regional basis to Spectrum Access licensees. Under this proposal, satellite operators would not need to rely on commercial negotiations to gain access to this spectrum. GSOA suggests that Spectrum Access Licensees be required to regularly notify to Ofcom of their existing and relatively short term planned deployments for Ofcom and other spectrum users' assessment. GSOA strongly supports that this information would be made publicly available as it could enable satellite operators to plan their gateways to avoid affecting existing fixed link deployments and streamline the coordination process.</p>
<p>Question 2: If we decide to proceed with this proposal to license satellite gateways to access 28 GHz spectrum in portions of the band not currently available for satellite</p>	<p>N/A</p>

<p>gateways, do you agree with our proposal not to adjust Spectrum Access licence fees to reflect locations where we authorise future satellite gateways? If not, please provide reasons/evidence for your response.</p>	
<p>Question 3: Do you have any further views / comments on our proposal to license satellite gateways to access 28 GHz spectrum in portions of the band not currently available for satellite gateways?</p>	<p>N/A</p>
<p>Question 4: Have we correctly identified the possible uses of the returned spectrum? If not, what other potential uses should we consider?</p>	<p>GSOA recommends Ofcom allocating the returned 28 GHz spectrum, namely 27.8285-28.0525 GHz and 28.8365-29.0605 GHz, to land-based satellite terminals.</p> <p>According to ECC Decision (05)01, <i>decides 2</i>), the band 28.8365-28.9485 GHz is designated for the use of uncoordinated FSS earth stations, taking into account, that legacy FS systems that were licensed 18 March 2005 in some countries should not operate after 1 January 2020. With this requirement in mind the band 28.8365-28.9485 GHz is already harmonized for uncoordinated FSS earth stations in CEPT, as a part of the FSS 504-megahertz spectrum block according to the 28 GHz band segmentation plan (<i>i.e.</i>, 28.4445-28.9485 GHz). GSOA kindly requests that Ofcom follow the CEPT harmonization plan and designate the band 28.8365-28.9485 GHz band segment for the use of uncoordinated FSS earth stations allowing users to benefit from access to spectrum in this band for satellite broadband services.</p> <p>According to ECC Decision (05)01 28 GHz band segmentation the 27.8285-27.9405 GHz band segment is designated for the Fixed Service (FS) unpaired band (112 MHz) while the 27.9405-28.0525 GHz FS band segment is paired with the 28.9485-29.0605 GHz FS band segment (112 MHz). Considering the limited</p>

	<p>amount of spectrum available for FS operations, there may not be any benefit by accessing these for FS use of these very small portions of the spectrum. Therefore, GSOA suggests that Ofcom consider designating these frequency bands to the use of land-based satellite terminals. GSOA is of the view that the needs of the FS operators cannot not be met at the expense of access to spectrum that was previously harmonized for uncoordinated FSS earth stations in Europe according to ECC Decision (05)01.</p> <p>GSOA agrees with Ofcom that co-existence rules between FS stations and uncoordinated FSS earth stations (uplink) in the 28 GHz band are not defined, and therefore, use of both in the same band could be difficult. At the same time, ECC Decision (00)07 outlines the rules for the shared use for FS stations and FSS earth stations in the 17.7-19.7 GHz (18 GHz) band. GSOA notes that currently there is no constraint for FSS earth stations (downlink) use in the 18 GHz band.</p> <p>In any case, as Ofcom correctly identifies, satellite gateways can co-exist and be coordinated with FS links. GSOA also notes that aeronautical and maritime ESIM can use the entire 28 GHz band, with sharing conditions, where needed, and welcomes Ofcom’s decision to consider spectrum access for these types of satellite terminals in a following consultation, with reference to successful outcomes for Earth Stations in Motion (ESIM) use in these bands following WRC-19 A.I. 1.5 (GSO ESIM) and WRC-23 A.I. 1.16 (NGSO ESIM).</p>
<p>Question 5: As a satellite operator, are you currently constrained by the amount of spectrum available in the 28 GHz uplink and 18 GHz downlink to provide your planned and or existing satellite services to UK consumers and citizens? If so, please explain what constraints exist in each band.</p>	<p>The 28 GHz uplink band, paired with 18 GHz band, is paramount, also for new and innovative novel satellite services. To meet evolving consumer requirements for high-speed and affordable access, modern broadband satellite systems require access to the entire spectrum in the 28 GHz band. Continuity of spectrum is the key proving satellite operators the</p>

	<p>ability to use multiple channels with a bandwidth of up to several hundred megahertz that is required for gateways to support modern satellite broadband users' throughput requirements and growing consumer use. It is also critical to have continuous spectrum of at least the 504 megahertz (<i>i.e.</i>, 28.4445-28.9485 GHz) available for land-based satellite terminals operation as foreseen in ECC Decision (05)01.</p> <p>GSOA is of the view that the entire frequency band should be available to FSS gateway stations on a primary basis in the UK. The amount of spectrum for land-based satellite terminals needs to be maximized as well, enabling at least the following sub-bands: 27.5-27.8285 GHz; 28,4445-28,9485 GHz; and 29.4525-30 GHz. GSOA supports making the 27.8285-27.9405 GHz; 27.9405-28.0525 GHz; and 28.9485-29.0605 GHz available for land-based satellite terminals as well.</p>
<p>Question 6: Do you agree with our initial view that alternative use of the returned spectrum would be an allocation decision for either point-to-point fixed links or land-based satellite terminal use because it is unlikely both services can share and auctioning the spectrum is unlikely to secure optimal use? If not, please provide evidence to support your response.</p>	<p>GSOA supports allocating the returned spectrum for land-based satellite terminals. GSOA notes that the band 28.8365-28.9485 GHz was designated for the use of uncoordinated FSS earth stations according to ECC DEC (05)01 and encourages Ofcom to follow the European harmonization rules making at least this part available for land-based satellite terminals if Ofcom would be on the position not to allocate use of land-based satellite terminals in the entirety of the returned spectrum. GSOA strongly supports Ofcom's approach to not auctioning the spectrum, as spectrum in the Ka band can be naturally shared among multiple satellite operators.</p>
<p>Question 7: Do you agree with our initial view to make 112 MHz at 28.8365 – 28.9485 GHz available for land-based satellite terminal use, 2 x 112 MHz for point-to-point fixed links at 27.9405 - 28.0525 GHz and 28.9485 -</p>	<p>GSOA supports Option 4 "Option 4 – Land-based satellite terminals only" GSOA respectfully disagrees with Ofcom's decision to allocate only 112 megahertz out of the 448 megahertz of released spectrum for land-based</p>

<p>29.0605 GHz and defer allocating the remaining 112 MHz of spectrum? If not, what alternative suggestions do you have?</p>	<p>satellite user terminal use. As mentioned in the GSOA response to Q5, GSOA is of the view that the 28 GHz band is a core band for FSS, for both GSO and NGSO satellite networks/systems. In addition, GSOA respectfully does not agree with Ofcom's conclusion made in section 5.32, noting that ECC Decision (00)07, implemented by the UK, contains conditions of shared use of 18 GHz band by FS stations and FSS earth stations. Based on recent WRC-19 and WRC-23 decisions, satellites and their earth stations (gateways and satellite user terminals, including ESIM) are being developed and deployed to provide services in the entire 28 GHz for both GSO networks and NGSO systems. Therefore, GSOA strongly encourages Ofcom to consider allocating the entire spectrum being released (<i>i.e.</i>, 2*224 MHz) for satellite user terminal use, as outlined above.</p>
<p>Question 8: Do you agree with our assessment of how the returned spectrum may be authorised for fixed links and GSO and NGSO land-based satellite terminals? If not, please provide evidence to support your response.</p>	<p>N/A</p>
<p>Question 9: Do you have a view on demand for point-to-point fixed links in Northern Ireland and London in the frequency range 28.1925 – 28.3045 GHz paired with 29.2005 – 29.3125 GHz and our proposed approach that, if we were to decide to make this spectrum available for fixed links, would be to authorise this as Ofcom managed spectrum licensed on a first come first served basis?</p>	<p>GSOA does not support with Ofcom's proposed approach to allocate the frequency ranges 28.1925 – 28.3045 GHz, paired with 29.2005 – 29.3125 GHz, in London and Northern Ireland for point-to-point fixed links. As mentioned above, there is an increasing demand for the 28 GHz band for both satellite gateways and user terminals. In addition, based on the lack of responses from terrestrial operators in the "Arqiva's 28 GHz Spectrum Access License"^[1] Consultation, there seems to be very little interest in the 28 GHz band from terrestrial service providers, including FS providers. Therefore, GSOA urges Ofcom to open these frequencies for both satellite gateways and uncoordinated satel-</p>

	lite user terminal operations, whilst restricting access to these frequencies by terrestrial services.
Question 10: Do you have further views / comments that you wish to make in respect of this consultation?	N/A

Please complete this form in full and return to 28ghz@ofcom.org.uk.

^[1] <https://www.ofcom.org.uk/consultations-and-statements/category-3/consultation-arqivas-28-ghz-spectrum-access-licence>