

Non-geostationary satellite systems – Licensing updates

techUK

techUK is the trade association which brings together people, companies and organisations to realise the positive outcomes of what digital technology can achieve. With over 800 members (the majority of which are SMEs) across the UK, techUK creates a network for innovation and collaboration across business, government and stakeholders to provide a better future for people, society, the economy and the planet.

Your response

Question	Your response
<p>Question 1: Do you have any comments on our assessment of the interference challenges raised by NGSO systems and their potential impact on a) service quality; and b) competition?</p>	<p>Confidential? – N</p> <p>Ofcom’s assessment of the interference challenges raised by NGSO systems on service quality is accurate.</p> <p>Ofcom’s conclusion (paragraph 3.15) that the ITU framework needs to be complemented to effectively deal with the potential issue of interference between NGSO systems in the UK is sensible. However, Ofcom’s proposals to do this appear to replace the well-established and internationally recognised ITU Coordination Procedures with a new regime that appears to not take into account the most elemental principles of the ITU Radio Regulations.</p> <p>Under ITU Coordination Procedures, the system with the later date of protection needs to complete coordination to the maximum extent possible with prior filed systems before being brought into use and obtaining international recognition. This obligation is critical for two reasons:</p> <ul style="list-style-type: none">a. it encourages the later filed system to design their system with the flexibility necessary to avoid harmful interference from/to the previous filing system; andb. it encourages the later filed system to adopt any mitigation techniques at the design stage that, in the absence of this obligation, they would not otherwise be willing to adopt. <p>With respect to “supporting competition”: the premise upon which Ofcom is basing its assessment of the challenges raised by multiple service operators appears flawed. It is implied that NGSO operators need to be able to predict the characteristics of a later (potentially not yet) developed system and demonstrate “flexibility” to co-exist with said system.</p>

It is not clear how this can be possible. It is for that reason why the ITU has regulations for coordinating the shared use of the radio spectrum that require the later-invented technology to bear the burden of avoiding interfering into the earlier-invented system. The ITU Coordination Procedures have been developed precisely because wireless technologies must share spectrum resource, but - as there is no way to predict future systems - the burden to “mitigate the risk” of harmful interference can only rest with the later-invented system. Otherwise, systems filed later will gain an advantage, and so undermine fair competition (one of the main aims of Ofcom’s proposals set out in this consultation).

This same concept should be addressed in licence conditions for coordination with non-United Kingdom NGSO systems.

There are a range of techUK member views relating to geostationary orbit (GSO) satellite systems that should be addressed by Ofcom. GSO systems operate co-frequency with the NGSO systems considered in this consultation. As sharing between GSO and NGSO systems is critical as well to successful service by both types of systems to UK consumers, Ofcom should consider opening a consultation to address those issues at the same time as this proceeding.

Question 2: Do you have any comments on our approach to dealing with the interference challenges raised by NGSO systems?

Confidential? – N

Role of the ITU Regulations

As stated in the consultation document, the potential for harmful interference between satellite systems should be dealt with through the ITU framework for managing satellite filings. It is therefore essential that any additional, domestic measures implemented by Ofcom must be complementary to the ITU process and do not replace, supersede, or negate the ITU coordination requirements of NGSO operators in any way.

	<p>Ofcom believe they cannot rely solely on the ITU framework as the procedures only apply in cases where the filings are from different administrations, and because the ITU process may not resolve any issue in sufficient time to mitigate negative impacts. However, the ITU framework provides a well-established, and globally understood and accepted, process for dealing with interference issues- specifically, that the NGSO system with the later filing should not cause harmful interference to earlier systems. There is no reason why this basic and core principle cannot underpin and apply to any new domestic approach that Ofcom introduces to deal with interference between NGSO systems in the UK (e.g. requiring ‘cooperation’ between NGSO Licensees) regardless of timelines and or filing administration.</p> <p>techUK recommends Ofcom include in Draft condition 2 a specific reference to NGSO ITU Coordination Procedures. The use of terms “cooperate” and “coexist” are undefined and techUK members feel that this Condition will be unenforceable. As written, techUK members feel that the proposed approach to dealing with the interference challenges raised by NGSO systems is not clear: the regulatory system needs to be clearer and practicable to enforce.</p>
<p>Question 3: Do you have any comments on the proposed updates to our process for NGSO gateway and network licences?</p>	<p>Confidential? – N</p> <p>techUK members have raised concern with the proposed process for NGSO gateway and network licensing. The proposals risk slowing down a fast-moving and attractive sector in the UK by implementing consultations for each application. Furthermore, it is unclear how Ofcom will make their licensing decision following these “mini” consultation rounds, as there is scope for re-application following reviews and comments by stakeholders, and this risks complexity that could hinder the sector as a whole.</p> <p>techUK recommends that Ofcom reviews this proposed process timeline to streamline, and provide clearer information on how applications will be processed. Some members</p>

support the “commenting period” within the process timeline, as it is felt this should help facilitate information sharing and support coordination between NGSO operators. However, it must be strictly time limited as to prevent a drawn-out application process.

To ensure maximum transparency and input, existing licence holders and those applying for a licence should be notified by Ofcom when a licence application has been published and invited for comment. This notification should help with streamlining the process as raised above.

techUK members agree with Ofcom that it is best for the operators involved to decide how to achieve co-existence (Para 4.5 and 4.6), including through the established ITU process for coordinating satellite systems, and the implementation of mitigations as a result of an ITU coordination agreement.

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With respect to Ofcom’s proposed approach for “managing interference”: no information is provided on how Ofcom is going to conduct the assessments specified and how a decision would be taken. Specifically, with respect to the proposed process for network licences set out in paragraphs 4.14-4.16: paragraph 4.16 states that a key piece of information that applicants should provide when applying for a network licence is “credible evidence about the technical ability for their system and future systems to coexist”. As above, it is not clear how an operator can know what others will

	<p>deploy in the future; nor what constitutes “credible evidence”.</p> <p>Overall, the proposed process for NGSO gateway and network licenses is quite vague and lacks specific criteria on how Ofcom would assess the information requested, and ultimately on what basis Ofcom would grant or deny a license.</p> <p>While there are ITU Recommendations that provide sharing criteria that operators may use in coordination, NGSO-NGSO coordination is incredibly complex and system-specific, with protection criteria being defined on a bilateral basis. These protection criteria will not necessarily be the same for all scenarios/systems. As a result, it is not possible to recommend a specific criteria for Ofcom to use that would reliably protect NGSO systems while not unduly constraining other systems. Instead, it is recommended that Ofcom rely on the ITU Coordination process to provide operators the flexibility to determine the right approach to coordinating their systems.</p> <p>techUK would like to see Ofcom regulation, including consultation with industry, support the NGSO satellite sector to flourish and grow in the UK.</p>
<p>Question 4: Do you have any comments on the proposed updates to existing and new NGSO network licences?</p>	<p>Confidential? – N</p> <p>techUK members agree that satellite network coordination as required under the ITU Radio Regulations is the most important element of the cooperation needed to mitigate the risk of harmful interference between NGSO systems.</p> <p>The proposed new licence <u>conditions</u> (i.e. proposed Condition 2) for NGSO network licences must therefore make specific reference and adhere to the well-established and internationally recognised Radio Regulations of the International Telecommunications Union (ITU) that already exist to coordinate co-existence between satellite systems and avoid harmful interference scenarios.</p>

	<p>Ofcom's confirmation (Para 5.21) that no conditions in the licence affect licensees' obligations under the ITU regulations is welcome. However, it is not sufficient as the sole reference to the ITU within the Licence – and (as above) the ITU coordination process must be acknowledged and referenced in the licence <u>conditions</u>.</p>
<p>Question 5: Do you have any comments on the proposed updates to existing and new NGSO gateway licences?</p>	<p>Confidential? – N</p> <p>techUK members agree with the proposed Condition 2 requiring that the gateway only to be used with a satellite system which has transmissions authorised under a UK network licence.</p> <p>Ofcom's confirmation (Para 6.14) that no conditions in the licence affect licensees' obligations under the ITU regulations is welcome.</p>
<p>Question 6: Do you agree with our proposal regarding NGSO terminals operating in Ka band?</p>	<p>Confidential? – N</p> <p>techUK members agree with this proposal. It is essential for both competition and interference risk reasons that all NGSO operators operate under a Network Licence and are therefore subject to the same licensing conditions regardless of whether they deploy user terminals operating in Ka or Ku band.</p> <p>As noted in the consultation document, there is also a risk of Ka Terminals interfering with the NGSO Gateways that are operating in the same frequencies. techUK members therefore agree that NGSO land terminals should no longer be exempt under HDFSS or ESOMPs, and must be operated under a network licence.</p>