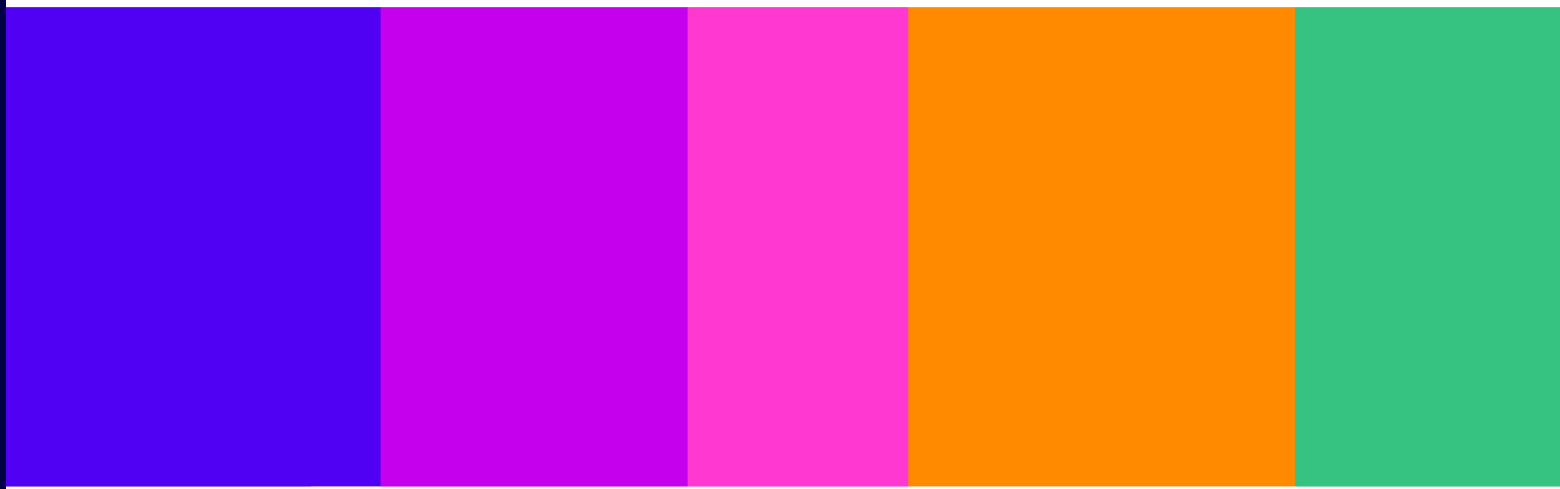


NSLComm Ltd “BeetleSat” application for a non-geostationary earth station network licence

Decision

Statement

Published 1 August 2024



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1. Overview

- 1.1 This document sets out our decision on an application by NSLComm Ltd (the NSLComm application) for a UK wireless telegraphy satellite earth station network licence (an NGSO network licence). This licence would authorise NSLComm to operate user terminals in the Ka band in the UK, such as a customer’s satellite dish, for links to its planned non-geostationary orbit (NGSO) satellite system, which it refers to as “Beetlesat”.
- 1.2 NGSO systems are a way of delivering broadband services from space using a constellation of satellites, usually in a low or medium orbit. They have the potential to deliver high speed and low latency services to consumers, governments and businesses.
- 1.3 Our [initial assessment of NSLComm’s application](#) in our January 2024 consultation (the NSLComm consultation) proposed that we grant NSLComm an NGSO network licence. We have now assessed stakeholder responses regarding NSLComm’s ability to coexist with other current and future NGSO licensees, as well as with other spectrum services, and considered the competition issues raised by stakeholders in their submissions.

What we have decided – in brief

We have decided to grant an NGSO network licence to NSLComm.

This decision will enable NSLComm to provide satellite connectivity services to businesses and government, as well as support backhaul services in the UK, using Ka band frequencies 27.5-27.8185 GHz, 28.4845-28.8265 GHz and 29.5-30 GHz.

On coexistence, and recognising its project is at an early stage, we consider that NSLComm’s BeetleSat system is capable of coexisting with both existing NGSO licensees and future NGSO systems operating in the Ka band. NSLComm has provided evidence that coordination discussions with other NGSO licensees have commenced, and we encourage all parties to engage in these discussions and progress plans to cooperate ahead of the launch of this service in 2026.

We also consider that NSLComm’s system is capable of coexisting with other services, including fixed links, radio astronomy, and geostationary orbit (GSO) satellite systems.

In addition, we assess that granting the licence will not create a material risk to competition, and that the proposed services would benefit UK citizens and consumers.

We will now proceed to issue NSLComm with its new NGSO network licence to operate in Ka band frequencies 27.5-27.8185 GHz, 28.4845-28.8265 GHz and 29.5-30 GHz, subject to payment of the licence fee. A copy of the licence will also be available under the “Existing licences” section of our [NGSO licensing webpage](#).

The overview section in this document is a simplified high-level summary only. Our decision and reasoning are set out in the full document.

2. Introduction and background

- 2.1 Our NGSO licensing process for considering applications for NGSO spectrum licences aims to enable citizen and consumer benefits such as improved connectivity. It was designed to encourage greater cooperation between NGSO licensees, enhance our ability to intervene if harmful interference arises, safeguard competition, and ensure greater transparency through a short consultation process. Our approach to NGSO licensing is set out in our [2021 statement on licensing NGSO satellite systems](#) (the 2021 NGSO statement), and [guidance for NGSO applicants on the licensing process](#).
- 2.2 Our NGSO licensing process covers two types of NGSO licences:
- *Satellite (earth station network) licence* – for NGSO use: authorises an unlimited number of user terminals, for example a satellite dish, to connect to the NGSO satellite system (the NGSO network licence).
 - *Satellite (non-geostationary earth station) licence*: authorises gateway earth stations connecting the NGSO satellite system to the internet or private networks (the NGSO gateway licence).
- 2.3 This decision document relates to the first of these licences: an **NGSO network licence**.
- 2.4 The NGSO network licence covers the use of all user terminals for a range of different services in the UK: fixed or static terminals (for home broadband services); land mobile (on trains or roads); or on aircraft and drones in UK airspace, and offshore platforms and ships in UK waters.¹ It permits uplinks from UK user terminals to the NGSO satellite(s). We require the holder of NGSO network licences to have control of the whole satellite network, so it is typically held by the satellite operator. It also places other conditions on licensees (under condition 8 “Additional conditions for operation with non-geostationary satellites”), including to coordinate with other NGSO licensees to prevent harmful interference. All NGSO licences are listed in the “Existing licences” section of our [NGSO licensing webpage](#).

NSLComm’s application

- 2.5 We received [NSLComm’s application](#) in November 2023, for an NGSO network licence to operate ground-based user terminals. It requested to use the Ka band frequencies 27.5-27.8185 GHz, 28.4545-28.8265 GHz and 29.5-30 GHz.
- 2.6 NSLComm is proposing to provide connectivity services to both verticals and end user applications, including aviation, maritime, military SatCom, enterprise and backhaul applications for terrestrial telecommunications networks.
- 2.7 Its planned NGSO constellation BeetleSat will comprise 264 satellites operating at 720 km altitude and along 12 orbital planes, each comprising 22 satellites, and could deliver up to 2 Tbps total network capacity globally. NSLComm launched a test satellite in January 2023. It anticipates that the initial batch of satellites for the operational system will be launched in

¹ Use of the NGSO network licence also extends to the airspace and territorial seas of the Crown Dependencies (i.e. the Channel Islands and Isle of Man), as explained in paragraph 1.15 of the [NGSO licensing guidance](#) and condition 2.1 of the NGSO network licence.

the second half of 2026. NSLComm has not yet applied for any NGSO gateway licences in the UK at the time of writing. Further information about the Beetlesat constellation can be found in [NSLComm's application on our website](#) (reference: BEETLESAT-NET-1).

Consultation and summary of responses

- 2.8 Taking account of the evidence presented by NSLComm, we published a [consultation](#) on 29 January 2024 setting out our preliminary view to grant it an NGSO network licence, and invited comments on NSLComm's application and our views. We noted we were open to changing those views depending on responses and evidence submitted to us as part of the consultation process. The NSLComm consultation closed on 29 February 2024.
- 2.9 We received four responses to this consultation. The two non-confidential responses are now published alongside NSLComm's application and consultation on our [website](#). We have established through our routine industry engagement that other NGSO network licensees and key stakeholders did not wish to raise particular issues over the NSLComm application.
- 2.10 We have carefully considered all relevant consultation responses in finalising our decision on NSLComm's application. This document summarises the main points made by stakeholders in their submissions and our assessment of those points, under headings prompted by the seven questions we asked in the NSLComm consultation. We have collated answers under the most appropriate heading; in some cases this means respondents' comments are addressed under different headings to those they used.

Structure of this document

- 2.11 The rest of this document is structured as follows:
- Section 3 assesses respondents' views on the capability of NSLComm's system to coexist with other (current and future) NGSO systems.
 - Section 4 assesses respondents' views on the capability of NSLComm's system to coexist with other services (fixed links, radio astronomy and GSO networks).
 - Section 5 assesses stakeholders' responses on the potential competition risks and benefits arising from NSLComm's application.
 - Section 6 covers any other comments provided on the NSLComm consultation, as well as responses regarding our equality and Welsh language impact assessments.
 - Section 7 summarises our decision and next steps.
 - Annex 1 sets out our impact assessments, including on equality and the Welsh language.

3. Assessing the impact on NGSO coexistence

- 3.1 Our [2022 Space Spectrum Strategy](#) sets out our aspiration to enable as many NGSO systems as possible, to provide services and increase choice for citizens and consumers in the UK. NGSO satellites are dynamic by nature, creating a complex spectrum management environment, both in space and on the ground. We recognise the importance of ensuring that different NGSO systems are able to operate alongside each other without increasing the risk of harmful interference, and this is one of the aims of our NGSO licensing process.
- 3.2 The International Telecommunication Union (ITU) Radio Regulations mandate that NGSO satellite operators establish coordination agreements to prevent harmful interference. An order of precedence is assigned to satellite systems or networks based on its satellite filing submission date, and operators must seek an agreement with operators of earlier filed systems and networks. Ultimately, notifying administrations responsible for the satellite filing are responsible for ensuring that operators comply with these ITU obligations.

Coexistence with existing NGSO systems

- 3.3 When applying for an NGSO network licence, we ask applicants to demonstrate how coexistence is possible between their NGSO system and other NGSO systems or gateways already licensed in the UK (as well as any NGSO licence application consultations that are operating in the same frequency bands). Applicants should also show how they are able to coexist with other specific co-frequency earth stations registered with the ITU².
- 3.4 As explained in paragraph 2.9 of our [NGSO licensing guidance](#), we do not require applicants to have reached a coordination agreement as set out by the ITU, but in order to minimise the risk of harmful interference to services in the UK we do request evidence of:
- proactive engagement with other co-frequency NGSO network and gateway licensees (in accordance with licence condition 8.2); and
 - a willingness to reach coordination agreements (with an onus on licensees to ensure that their discussions and agreements comply with UK competition law), that:
 - > ideally result in an ITU coordination agreement;
 - > otherwise, a UK-based coordination agreement.
- 3.5 Where coordination agreements are not reached, we will seek evidence (as we monitor the progress of discussions) that applicants have a plan, putting reasonable measures in place and demonstrating how it would be possible for their different systems to coexist.
- 3.6 In the NSLComm consultation, we noted the existing NGSO network licensees who plan to operate terminals using frequencies in the Ka band. At the time of writing, these were Mangata Edge Ltd and Telesat LEO Inc, and we also noted a new application to operate

² These are listed at the bottom of our [NGSO licensing webpage](#).

terminals in the Ka band from Rivada Space Networks GmbH, who has since been issued with an NGSO network licence.³

3.7 In addition, there are seven existing NGSO gateway earth stations which all connect to the Starlink NGSO constellation, with each individually licensed to operate in the Ka band:

- five licences are held by Starlink (for Morn Hill, Fawley, Wherstead, Woodwalton, and the Isle of Man);
- one licence is held by Arqiva Ltd (for Chalfont); and
- one licence is held by Goonhilly Earth Station Limited (for Goonhilly).

3.8 An NGSO network licence should be held by someone who has control over the whole satellite network (including associated user terminals and gateway earth stations), as explained in our [NGSO licensing guidance](#). This is so that licensees are able to comply with the conditions in their licence. NSLComm confirms in its application that it will have control over the full NGSO system, including customers' access to the satellite network from any user terminals or earth stations operating from the ground. This control includes the ability to act upon and eliminate any interferer transmission/s at any time.

3.9 Our NSLComm consultation noted that NSLComm had not yet reached coordination agreements with any other existing NGSO operators. However, in its application NSLComm provided technical coexistence analysis demonstrating that the impact of its NGSO constellation on other NGSO network licensees would be minimal.

3.10 Our preliminary view was that NSLComm's NGSO system should be able to coexist with existing NGSO network licensees without causing undue degradation. However, we reiterated that all parties should continue coordinating in good faith before the launch of NSLComm's NGSO constellation, noting that our licence conditions require licensees to cooperate with each other so they can coexist. We asked stakeholders:

Consultation question 1

Do you anticipate this satellite network will pose coexistence challenges to existing services?

Consultation responses

3.11 All of the responses to question 1 were confidential, however respondents have agreed to make public the following points⁴ about NSLComm's application:

- **Using a low radiated power level (EIRP⁵)** - Two respondents noted NSLComm's plans for using a relatively low EIRP reduces the risk of interference into other NGSO licensed services, although one of these suggested that it may also increase sensitivity to interference.

³ Other NGSO network licensees (Starlink Internet Services Limited, a subsidiary of SpaceX, and Network Access Associates Ltd, a subsidiary of Eutelsat OneWeb) operate terminals using frequencies in the Ku band (new applicant Kepler Communications Inc. is now also seeking an NGSO network licence in the Ku band).

⁴ Some confidential respondents raised other points not directly relevant to our assessment of NSLComm's ability to coexist with other licensees and therefore, we have not addressed them in this document.

⁵ Equivalent isotropic radiated power (EIRP) is a measure of the strongest power emitted in a given direction from an antenna.

- **Initiating coordination discussions** - Two respondents raised concerns that at the time of the consultation publication, NSLComm had not yet initiated coordination discussions.
- **Accuracy of technical assumptions** – Several respondents sought to clarify the accuracy of assumptions used in NSLComm’s technical studies and its description of the simulation method. They suggested further analysis and coordination discussions were needed to help them assess potential interference and necessary mitigations. In particular, one respondent queried whether the co-frequency satellite value of $N_{co}^6 = 1$ had been used in order to understand the potential implications for its system. This respondent also considered that the distances between customers’ co-frequency terminals were unclear.

3.12 Notwithstanding the above, respondents who raised these issues were generally comfortable that they could be addressed through coordination discussions.

Our assessment

3.13 We address each of the issues stakeholders raised in their responses in turn below.

Using a low EIRP

3.14 We agree that NSLComm’s plan to use a relatively low EIRP reduces the risk of harmful interference into other NGSO licenced services. While this could increase the sensitivity to interference of NSLComm’s system, it would not impact its obligation to reasonably accommodate other NGSO systems.

Initiating coordination discussions

3.15 In order to fulfil condition 8.2 of the NGSO network licence, applicants and licensees are required to take seriously their obligation to commence and be active in progressing coordination discussions. NSLComm has now confirmed that it has initiated coordination discussions with the required parties. We are therefore satisfied that NSLComm should be able to meet the conditions of the NGSO network licence and encourage all parties to continue discussions in good faith.

Accuracy of technical assumptions

3.16 We asked NSLComm to clarify the value of N_{co} used in its coexistence analysis, which it confirmed to be a value of one (i.e. $N_{co}=1$), consistent with what was assumed by the respondent. We continue to consider that the studies described in NSLComm's application suggest that its system has a relatively low likelihood of causing harmful interference. We agree with stakeholders that other potential issues can be addressed through coordination discussions (e.g. on the assumptions used in NSLComm’s technical studies and simulations, such as the distance between consumer terminals that operate on the same frequency). We encourage stakeholders to share technical specifications to facilitate further analysis during these discussions.

3.17 Having taken account of all consultation responses, NSLComm’s approach to coexistence set out in the annex to its application and clarification on the value of N_{co} used, we consider

⁶ In this context, N_{co} refers to the maximum number of satellites transmitting co-frequency and simultaneously (see C2.3.1 of ITU-R S.1503). A value of $N_{co}=1$ assumes that only one satellite is transmitting at any one time at a given location, but a higher value (i.e. $N_{co}>1$) could increase harmful interference into other operators’ systems.

that there is sufficient evidence that NSLComm’s system should be able to coexist with existing NGSO network licensees.

- 3.18 We are also satisfied that NSLComm can meet the conditions in our NGSO network licence (as summarised in paragraph 2.4) and that these conditions provide us with the necessary powers to intervene to resolve harmful interference if required.
- 3.19 We encourage all NGSO network licensees to engage in coordination discussions in good faith, according to the terms of their licence, ahead of the launch of NSLComm’s services in 2026. We will be monitoring the progress of these coordination discussions, as we do for all our NGSO licensees.

Coexistence with future NGSO systems

- 3.20 Our process for considering NGSO network licence applications recognises that it is not possible for an applicant to know the future plans of other operators. An applicant’s proposed approach to coexistence cannot therefore be detailed and specific at this stage.
- 3.21 Nevertheless, we expect applicants to set out clear principles for appropriately mitigating interference issues, to demonstrate that their system has the flexibility to accommodate new entrants, if required. This will ensure they can meet the terms of their licence if and when additional NGSO operators apply to operate services in the UK. We therefore require applicants to:
- explain how their existing network design and operating model might facilitate coexistence with future NGSO systems, as well as any limitations;
 - outline any additional measures for improving coexistence with future NGSO systems; and
 - take reasonable measures to accommodate future NGSO systems, in order to avoid material degradation to services in the UK.
- 3.22 NSLComm explains how it could manage coexistence with future NGSO systems using a range of methods including look-aside angles, dynamically assigning power and bandwidth to each beam, avoidance of overlapping frequencies, and use of opposite polarisation to avoid inline events. It noted that coordination discussions would determine which method(s) would be appropriate in each case.
- 3.23 After considering NSLComm’s proposed approach, we set out our initial view in the consultation that the techniques described provide sufficient comfort that NSLComm’s NGSO system will be capable of coexisting with future NGSO systems. We asked the following question to gather input from stakeholders:

Consultation question 2

Are the measures set out by the applicant to enable coexistence with future systems reasonable?

Consultation responses

- 3.24 We did not receive any comments applying exclusively to coexistence with future NGSO systems. We did receive comments about coexistence with both current and future NGSO systems, and these have been addressed in our assessment of question 1 responses above.

Our assessment

- 3.25 We therefore maintain our view that NSLComm's approach to future coexistence, which it plans to adapt depending on the outcome of coordination discussions, means its system is capable of addressing potential issues with new NGSO entrants.

Conclusion on NGSO coexistence

- 3.26 We consider that NSLComm's system is technically capable of coexisting with current and future NGSO licensees, and that granting the NGSO network licence is unlikely to degrade consumer services.
- 3.27 We remind licensees of their obligation to discuss cooperation arrangements in detail prior to deploying systems. We note the early stage of NSLComm's coordination discussions and encourage all parties to engage proactively in these conversations. We also reiterate that the conditions in our licence provide us with the necessary powers to intervene to resolve harmful interference if required.

4. Assessing the impact on other services

- 4.1 There is also the potential for harmful interference between NGSO systems and other services using the same frequencies. It is reasonable for us to expect satellite operators to comply with international regulations, specifically the ITU’s Radio Regulations which set out how different services may coexist.
- 4.2 In addition, conditions in our NGSO network licence are intended to prevent harmful interference into co-channel and adjacent band spectrum users and give us powers to address any coexistence issues should they arise. In particular, we updated our [NGSO network licences](#) to better protect existing services, with an explicit licence condition requiring compliance with Article 22 of the ITU Radio Regulations.⁷ For this reason, we ask applicants for NGSO network licences to demonstrate, where relevant, how their NGSO system will protect the following users of spectrum in the UK:
- GSO networks;
 - radio astronomy in the 10.6-10.7 GHz band; and
 - fixed links in the 17.7-19.7 GHz band.
- 4.3 NSLComm outlines in its application how its NGSO system would protect these other services:
- **GSO networks** - NSLComm states that its NGSO constellation complies with the equivalent power flux density (EPFD) limits in Article 22 of the ITU Radio Regulations, and that in frequency bands where these limits do not apply, it will operate in accordance with agreed coordination terms with other potentially affected networks.
 - **Radio astronomy** - NSLComm notes that its NGSO system will not operate in the Ku band, and therefore will not interfere with radio astronomy.
 - **Fixed links** - NSLComm confirms that its NGSO system complies with the PFD limits set out in Article 21 of the ITU Radio Regulations.
- 4.4 In the consultation we set out our initial view that NSLComm’s plans provide sufficient comfort that its NGSO system would be capable of protecting both GSO services and fixed links (and will not operate in the same bands as radio astronomy). We asked the following question to gather stakeholders’ views.

Consultation question 3

Do you assess that the measures put forward will allow this satellite network to coexist with other services?

⁷ We updated our [NGSO network licences in September 2023](#) to include condition 3.7(p) which requires NGSO satellites and gateway earth stations to comply with the relevant EPFD limits in Article 22 of the ITU Radio Regulations. A similar condition was included in NGSO gateway licences (condition 3.1(d)).

Consultation responses

- 4.5 A confidential respondent requested that we remain diligent in ensuring NSLComm complies with Article 22 of the ITU Radio Regulations. It highlighted the update to Resolution 76 from WRC-23⁸ calling for studies on a methodology for aggregate EPFD as a matter of urgency. It noted how challenging it is for other parties to assess aggregate potential interference across all co-frequency NGSOs in the absence of an agreed methodology. It did not believe that Article 22 alone was sufficient to address this risk to its networks.
- 4.6 The same respondent raised concerns about the growing number of NGSO network licences being granted and the impact this may have on GSO operators. Specifically, that the growing number of licences increases the risk of relying on the international regulatory framework to protect GSO operators in the Ka band. This confidential respondent further requested Ofcom to act expeditiously to resolve any case of harmful interference including to GSO downlinks. It suggested resolving interference would be improved by establishing an independent measurement facility capable of monitoring both single entry and aggregate EPFD from multiple, co-frequency NGSOs.

Our assessment

- 4.7 We are aware that the growing number of NGSO systems expected to operate in the UK has the potential to increase the risk of harmful interference to GSO networks. However, we consider that our national NGSO licensing process, together with the relevant international rules and obligations, provide a framework for managing this risk and addressing any issues should they arise. We address the international and national issues respondents raised in turn below.

International obligations

- 4.8 As set out in previous NGSO licensing statements⁹, it is reasonable for us to expect NSLComm will comply with the ITU Radio Regulations and protect GSO networks under the relevant provisions, specifically Article 22 and Resolution 76. The notifying administration responsible for the NGSO system is ultimately responsible to ensure such compliance.

National licence conditions and enforcement

- 4.9 Regarding operations within the UK, we expect all licensees to comply with licence condition 3.7(p) to protect existing services including GSO networks when operating within the UK, irrespective of the number of satellite filings under which they operate or the details of such filings. This condition also applies if the satellite filing(s) are modified.
- 4.10 We do not consider it necessary to wait until the studies on aggregate EPFD (called for in Resolution 76 at WRC-23) are concluded before awarding new licences. This is because the international obligation to comply with aggregate interference limits applies regardless of the outcome of these studies.

⁸ World Radiocommunication Conference held in November and December 2023.

⁹⁹ See [Rivada Space Networks GmbH](#), [Mangata Edge Ltd](#), [Telesat LEO Inc](#).

- 4.11 We are satisfied that the existing conditions in NGSO network licences give us sufficient power to act should enforcement be necessary. We may use our powers to access and inspect sites, revoke licences, or we may modify, restrict, or closedown services. Where the conditions of NGSO network licences are breached, we can impose financial penalties, or licensees may also face criminal prosecution. Harmful interference into licensed networks can be reported to our [Spectrum Monitoring Centre](#), and we are also developing new national capabilities to monitor and measure NGSO systems.

Conclusion on coexistence with other services

- 4.12 Having assessed NSLComm's application and stakeholder responses, we remain of the view that NSLComm's NGSO system is capable of protecting other services, including GSO networks and fixed links.

5. Assessing the impact on competition

- 5.1 Our NGSO licensing process explains that our starting position for assessing competition is to authorise applications where possible. We take the following four factors into account:
- the extent of the likely risks to competition;
 - the potential benefits from granting NGSO licence applications;
 - ensuring that time and resources devoted to the licensing process are proportionate to the risks and benefits; and
 - that NGSO services are currently in their infancy.

Risks to competition

- 5.2 Competition concerns can arise where an applicant's NGSO system imposes technical constraints on current and future NGSO licensees (e.g. due to a lack of flexibility in the design of the applicant's systems to respond to, or avoid altogether, potential harmful interference). If the applicant's NGSO system is less able to technically coexist with current and future NGSO systems, then this could lead to weakened competition and worse outcomes for consumers, such as higher prices or lower quality of services.
- 5.3 In the NSLComm consultation we identified three potential and general risks to competition that could be relevant to our assessment of NSLComm's application:
- **Potential risk 1:** User terminals create harmful interference into existing NGSO user terminals and/or gateway earth stations, resulting in weakened competition and worse outcomes for consumers.
 - **Potential risk 2:** User terminals are unable to coexist with future NGSO systems, creating a barrier to entry and in turn restricting competition.
 - **Potential risk 3:** Operators not coordinating in good faith could hinder the ability of current and future satellite operators to provide their services.
- 5.4 In the consultation, our initial assessment of potential risks 1 and 2 was that coexistence was possible between NSLComm's proposed NGSO system and both current and future NGSO systems operated by other NGSO licensees. Therefore, our preliminary view was that these risks were unlikely to develop.
- 5.5 With respect to potential risk 3, our initial assessment was that we are equipped through our enforcement powers to remedy situations in which one or more NGSO operators failed to cooperate with other NGSO licensees. This should alleviate any concerns over the potential for this risk to materialise in relation to NSLComm's application.
- 5.6 Overall, our initial view was that there would not be a material risk to competition.

Benefits

- 5.7 In the NSLComm consultation we noted our general view that granting NGSO network licences is likely to benefit UK citizens and consumers, and supports Ofcom’s strategic priority to get everyone connected. Since issuing a new NGSO network licence allows market entry, it also has the potential if a service is deployed to promote greater competition (assuming that the NGSO system can coexist with other authorised systems). Our preliminary view was that NSLComm’s Beetlesat system has the potential to provide services that improve connectivity options for UK consumers.
- 5.8 We asked stakeholders the following question in the NSLComm consultation:

Consultation question 4

Do you believe the NGSO system in the application would benefit or harm competition between NGSO services in the UK? Please provide details.

Consultation responses

- 5.9 No respondents raised any concerns about NSLComm’s application with respect to competition between NGSO systems in the UK. A confidential respondent suggested that NSLComm’s system will have a beneficial impact on competition because it will increase the variety of products and solutions on the market.
- 5.10 In addition, respondents provided views on coexistence between current and future NGSO systems and protecting GSO services. These responses are also relevant to our competition assessment and are summarised in previous sections.

Our assessment

- 5.11 As set out in section 3, where we assess coexistence of NGSO systems, we consider NSLComm’s system is capable of coexisting with both existing NGSO network licensees and future NGSO systems. In addition, our assessment in section 4 concludes that NSLComm’s system is also capable of protecting other services, such as GSO networks and fixed links.
- 5.12 We also consider NSLComm’s NGSO system has the potential to provide services that improve connectivity options for UK citizens and consumers.

Conclusion on competition

- 5.13 We consider the proposed arrangements for coexistence and coordination are appropriate in this case, therefore we determine there is no material risk to competition relating to NGSO systems and other users (including GSO networks), and that the proposed services would benefit citizens and consumers in the UK.

6. Other consultation questions

Additional comments

- 6.1 We gave respondents the opportunity to offer any other comments they may have in relation to NSLComm’s application, and asked:

Consultation question 5

Do you have any additional concerns or comments regarding the application?

Consultation responses

- 6.2 One confidential respondent raised concerns regarding protection of GSO services. Another confidential respondent provided the entirety of their response in reply to this question.

Our assessment

- 6.3 We have responded to these issues under the relevant questions in sections 3, 4 and 5 above.

Equality and Welsh language impact assessments

- 6.4 We also assessed the likely impacts and benefits of granting NSLComm’s NGSO network licence on persons sharing protected characteristics, and on the Welsh language, as set out in Annex 1 of the NSLComm consultation. We did not identify any adverse impacts on persons sharing protected characteristics that meant they are likely to be affected in a different way to the general population, nor did we consider that our proposals had any impact on our Welsh language obligations. We asked stakeholders the following questions:

Consultation question 6

Do you agree with our assessment of the potential impact on specific groups?

Consultation question 7

Do you agree with our assessment of the potential impact of our proposal on the Welsh language?

Consultation responses

- 6.5 Two confidential respondents agreed with both impact assessments; no other comments were raised.

Our assessment

- 6.6 We remain of the view that granting this NGSO network licence will not have any adverse impact on persons sharing protected characteristics, and does not reduce opportunities for persons to use the Welsh language, nor does it treat the Welsh language any less favourably than the English Language. Our full reasoning is set out in Annex 1 of this statement.

7. Our decision

How we decide whether to grant an NGSO network licence

- 7.1 Our [2021 NGSO statement](#) explains the considerations we would take into account when deciding whether to grant an NGSO licence:
- a) our technical coexistence checks;
 - b) our competition check;
 - c) our impact assessments¹⁰;
 - d) our statutory duties, as set out in section 3 of the Wireless Telegraphy Act 2006 and section 3 of the Communications Act 2003, with our principal duty being to further the interests of citizens and consumers in relation to communications matters;
 - e) our NGSO licensing objectives, including to enable citizen and consumer benefits arising from innovative satellite services, such as improved connectivity; and
 - f) any other available relevant evidence, including the application, consultation responses and any further information provided by the applicant.

Our decision and next steps

- 7.2 In light of the evidence provided in NSLComm’s application, clarification on the value of Nco, and further to careful consideration of potential coexistence and competition issues, impact assessments and consultation responses, we have decided to grant NSLComm an NGSO network licence to operate its NGSO system in the Ka band in the UK, ahead of the launch of this service in 2026.
- 7.3 We will now proceed to issue NSLComm its new NGSO network licence to operate in Ka band frequencies 27.5-27.8185 GHz, 28.4845-28.8265 GHz and 29.5-30 GHz, subject to payment of the licence fee. A copy of the NGSO network licence will be made available under the “Existing licences” section of our [NGSO licensing webpage](#).

¹⁰ See Annex 1 for full details of the impact assessments carried out.

A1. Impact assessments

Impact assessment

- A1.1 Section 7 of the Communications Act 2003 (the Act) requires us to carry out and publish an assessment of the likely impact of implementing a proposal which would be likely to have a significant impact on businesses or the general public, or when there is a major change in Ofcom’s activities.
- A1.2 Impact assessments form part of good policy making and we therefore expect to carry them out in relation to a large majority of our proposals. We use impact assessments to help us understand and assess the potential impact of our policy decisions before we make them. They also help us explain the policy decisions we have decided to take and why we consider those decisions best fulfil our applicable duties and objectives in the least intrusive way. Our [impact assessment guidance](#) sets out our general approach to how we assess and present the impact of our proposed decisions and section 4 of our [2021 NGSO statement](#) sets out how we assess the impact of applications for NGSO network licences.
- A1.3 [We have carefully](#) considered the potential impact of granting an NGSO network licence to NSLComm throughout the consultation and decision process. We assessed the benefits of NSLComm’s application for an NGSO network licence on citizens and consumers, as well as the risks posed to coexistence with other services and competition in section 2 of the [NSLComm consultation](#). We set out our assessment and final decision in sections 3-7 of this statement, taking into account NSLComm’s application, comments we received in response to our consultation, and clarification from NSLComm.
- A1.4 As outlined in sections 3 and 4, we have concluded that our decision to grant the NGSO network licence is likely to have an overall positive impact for stakeholders, consumers and citizens, by enabling improved satellite connectivity to enterprises and government organisations and supporting backhaul services across the UK. We do not consider that our decision will have a detrimental impact on stakeholders. We also assess that NSLComm is unlikely to cause harmful interference to other services in the frequencies it intends to use.

Equality impact assessment

- A1.5 We have given careful consideration to whether our decision will have a particular impact on persons sharing protected characteristics (broadly including race, age, disability, sex, sexual orientation, gender reassignment, pregnancy and maternity, marriage and civil partnership, and religion or belief in the UK, and also dependents and political opinion in Northern Ireland), and in particular if they may discriminate against such persons or impact on equality of opportunity or good relations. This assessment helps us comply with our duties under the Equality Act 2010 and the Northern Ireland Act 1998.
- A1.6 When thinking about equality we view this more broadly than persons that share protected characteristics identified in equalities legislation, to include potential impacts on various groups of persons (see paragraph 4.7 of our [impact assessment guidance](#)).

- A1.7 In particular, section 3(4) of the Act requires us to have regard to the needs and interests of specific groups of persons when performing our duties, as appear to us to be relevant in the circumstances. These include:
- the vulnerability of children and of others whose circumstances appear to us to put them in need of special protection;
 - the needs of persons with disabilities, older persons and persons on low incomes; and
 - the different interests of persons in the different parts of the UK, of the different ethnic communities within the UK, and of persons living in rural and in urban areas.
- A1.8 We also examine the potential impact our policy is likely to have on people, depending on their personal circumstances. This assists us in making sure that we are meeting our principal duty of furthering the interests of citizens and consumers, regardless of their background and identity.
- A1.9 NSLComm intends to provide satellite connectivity to enterprises and government organisations and support backhaul services for telecommunications (details can be found in the [annex to NSLComm’s application](#)). Taking account of stakeholder responses, we confirm our view set out in the NSLComm consultation that NSLComm’s NGSO system is likely to have particularly positive impacts on groups of persons living and working in rural or remote areas, and improve equality of opportunity by facilitating broadband and mobile services in ‘hard-to-reach’ areas in England, Scotland, Wales and Northern Ireland. We have not identified any adverse impacts on specific groups of persons that are likely to be affected in a different way to the general population.

Welsh language impact assessment

- A1.10 We are required to take Welsh language considerations into account when formulating, reviewing, or revising policies which are relevant to Wales (including proposals which are not targeted at Wales specifically but are of interest across the UK).¹¹
- A1.11 Where the Welsh Language Standards are engaged, we consider the potential impact of a policy proposal on (i) opportunities for persons to use the Welsh language; and (ii) treating the Welsh language no less favourably than the English language. We also consider how a proposal could be formulated to have or to increase, a positive impact, or not to have or to decrease any adverse effects.
- A1.12 We consider our decision to grant NSLComm an NGSO network licence will not have any impact on our Welsh language obligations, as it relates to a nationwide licensing regime and the relevant licence products are available for anyone within the UK to apply.
- A1.13 We note that our current practice is to produce spectrum licences in Welsh when requested, in accordance with our obligations set by the Welsh Language Commissioner. We will continue to take this approach in relation to NGSO licences.

¹¹ See Standards 84-89 of [Hysbysiad cydymffurfio](#) (in Welsh) and [compliance notice](#) (in English). Section 7 of the Welsh Language Commissioner’s [Good Practice Advice Document](#) provides further advice and information on how bodies must comply with the Welsh Language Standards.