The BBC's response to Ofcom's consultation on Space Spectrum Strategy

Introduction

The BBC welcomes the chance to comment on Ofcom's proposed strategy for managing radio spectrum used by the space sector. As Ofcom notes, satellite allows audiences in UK and internationally to receive broadcast TV services, broadband (including the delivery of audio-visual and audio content), among a number of benefits.

Satellite remains a backbone of the BBC's contribution, distribution and monitoring in the UK and around the world. In the UK:

- Satellite news gathering systems enable the BBC to broadcast live events and deliver news reports from remote locations where stories are happening.
- Satellite is also crucial for sport and events, whereby we use contribution satellite uplinks for these occasions.
- Around 400 DAB transmitters and 50 MW transmitters rely solely on satellite feeds.
- Around 1.8 million households rely on Freesat on their primary TV set.

And in other parts of the world:

- BBC uses direct-to-home satellite to reach homes in countries including Afghanistan, Iran and Iran.
- Ku and C-band spectrum plays a crucial part in the global distribution of BBC content.

Satellite usage helps the BBC to provide significant value to UK citizens - and to the UK's standing in the world - through effective and efficient service provision.

Responses to consultation questions

Question 1: Are there other trends in the space sector (or the broader spectrum environment) that we should monitor and/or take account of in our strategy?

We believe that Ofcom should actively monitor global trends in changes of usage in bands allocated to space spectrum. This is important in order for Ofcom to be to be able to understand and assess whether this has, or will have, an impact on UK stakeholders and whether any action can be taken to mitigate this.

As this consultation recognises, the space sector is global and "a satellite system usually provides services to a wide geographic area, rarely just the UK" (2.8). We have previously emphasised to Ofcom[1] that for DTH broadcasting applications and for onwards distribution of broadcast services by satellite, for every licensed uplink there is a large number of unregistered downlinks (both within and outside the UK). The BBC has consistently found that in countries where bands allocated to satellite are cleared - or where bands are made available for sharing - there is an impact on the downlinking of our services.

Question 2: Do you agree with the broad areas we have prioritised for our work?

We understand and agree that Communications, Earth observation and Access are three areas that should rightly be high priority. We do not necessarily call for broadcasting to be the same priority level - but we would be interested in Ofcom making more of the evidence available on which the conclusions are based ("there is currently no demand for additional spectrum for satellite broadcasting nor any significant changes in its spectrum use"), since the only specific references made relate to DTH services in the UK. We also note in question 5 some additional considerations in relation to the scope of broadcasters' use of space spectrum with respect to contribution and distribution. The BBC welcomes the detailed proposals on NGSO satellite systems, particularly in the context of any challenges created for managing interference and regulatory issues internationally.

The BBC wholeheartedly supports understanding and enabling access to space as a priority area. Space weather impacts HF broadcasting and also the satellites we use for national and global content distribution. As a publicly funded organisation, the BBC strives to keep its environmental impact to a minimum and we play a key role in informing our audiences on environmental issues. Given the increased numbers of space objects and proposals for mega-constellations, the growing issue of space debris is of concern. Ofcom is right to recognise the role spectrum will play in enabling safe use of space and to work alongside other agencies on this issue.

[1] BBC Response to Ofcom's 2016 Space Spectrum Strategy and BBC Satellite Use Briefing for Ofcom 17th August 2020

Question 3: Are there other issues and actions that are likely to be important over the next 2 – 4 years?

In line with our response to Question 1, the BBC believes that further reduction globally in the availability of C-band spectrum for satellite services is an important issue. Successive WRCs have made decisions which have reduced this spectrum and there is a real possibility that this could happen again.

The most important part of the C-band for the BBC (and therefore for our audiences) is 3.8-4.2GHz and we seek to ensure the efficient and effective use of that part of the band. In the UK context, the innovative approach Ofcom has taken in this band, with RSA and Shared Access Licences, provides for both the BBC's reliance on incumbent satellite services and our interest in developing the use of the band for content production (PMSE). We are currently undertaking co-existence trials in this band which we hope will further inform efficient spectrum sharing.

In the global context, however, we see developments which could carry risk for our continued use of this band. Although 3.8-4.2GHz is not on the agenda for WRC-23, the US and Japan have already assigned spectrum to mobile in this band and other countries are also now assigning spectrum above 3.8GHz to 5G systems. It remains to be seen how these developments will affect the continued viability of this band for global satellite communications, but BBC is already seeing less availability for ad-hoc services due to the ongoing trend for migration of services above 3.8GHz in an attempt to future proof reliable, interference-free operations. The BBC will continue to rely on this band for a significant amount of its distribution of international services (BBC World Service, BBC World News and BBC Studios) because it provides a reliable and effective way to provide services over large geographical areas around the world. It is also worth noting, that access to 3.8-4.2GHz in the UK, as well as to 3.4-4.2GHz outside the UK, is also essential in order for the BBC to provide its open-source monitoring service[2].

Question 5: Do you have any other issues you wish to comment on?

We welcome Ofcom's recognition of the importance of satellite spectrum to broadcasting and the acknowledgement that this includes distribution and contribution as well as direct to home services. In relation to broadcasters' use of

[2] BBC Monitoring provides coverage and analysis of the world's media for the BBC and Government and non-Government subscribers https://monitoring.bbc.co.uk/about

space spectrum we would like to make the following clarifications which build on the description in the consultation.

- DTH and distribution and contribution are not restricted to TV. Radio services are also included and, where BBC uses satellite for international distribution, content for online distribution can also be included.
- There are two important areas for contribution via satellite, and they have differing requirements whether they are used in the UK or elsewhere in the world. The example used in the consultation is newsgathering, where the emphasis is on reliable reception of live news coverage and pre-recorded packages, and balancing quality of service and cost. The second is contribution from sports or other events, which can range from small scale events to those that attract national and international interest. High profile occasions require reliable, resilient and high quality contribution links by satellite when fixed or wired connectivity is not available or sufficient.

We would be happy to provide further in-depth briefings on these areas.

Question 8: Do you have any other comments relating to NGSO systems?

The BBC recognises that large scale deployment of NGSO communications systems offer opportunities. We support Ofcom's prioritisation of this area and are pleased to see that coexistence between NGSO systems and other spectrum users is one of the areas of future work. We note that Ofcom considers that NGSO systems may create different interference risks for GSO satellite systems and that Ofcom's stated aim for NGSO-GSO sharing is the assurance of continued GSO benefits. We are keen to understand more about Ofcom's strategy for NGSO-GSO sharing and the handling of any interference.

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