

Your response

Executive Summary

The University of Strathclyde has been at the forefront of shared spectrum technology in the UK and other parts of the world for at least a decade. We played a key role in the development of the UK's TV White Space (TVWS) shared spectrum framework (for which regulations were put in place on 31st Dec 2015), and we are now active participants in the DCMS-funded 5G RuralFirst project, within which we are responsible for devising and deploying the next generation of '5G-friendly' dynamic spectrum access (DSA) solutions.

We believe strongly that dynamic, automated control of access to spectrum represents the most effective way to maximize spectrum utilization and, ultimately, has the potential to result in the best use of spectrum for the benefit of people and businesses in hard-to-reach communities where spectrum is often under-utilized.

We also believe that 5G presents an opportunity to explore new ways of doing things, and that it should be more than simply an extension of 4G or 3G or 2G. We include within this view innovative business models incorporating concepts such as neutral hosting and national roaming, as well as innovative ways of sharing of spectrum for the benefit of the people and businesses of the UK. This is closely aligned with DCMS's Statement of Strategic Priorities (SSP) and its Future Telecoms Infrastructure Review (FTIR). There exists a clear opportunity to deliver on several of these through an ambitious and innovative approach in the upcoming spectrum awards and in spectrum policy in general.

MNO's current use of spectrum in rural areas is highly 'inefficient', and many parts of the UK are likely to remain insufficiently connected for many years unless affordable access to spectrum is made possible in locations where the main MNOs are not deploying. Ofcom's proposal to allow shared access is welcome, but we firmly believe that this can be more effectively and more efficiently implemented via DSA. The technology exists today, and the approach can, if deemed necessary, be implemented using an 'outside in' approach starting with rural locations in the first instance, where the results are likely to be most beneficial. Furthermore, we believe that in order to maximize spectrum utilization more generally, DSA should be applied not only to the 'shared bands' but also to the 700 MHz and 3.4-3.8 GHz bands, as this would allow Ofcom considerable flexibility in controlling access to spectrum in different scenarios and situations.

Responses to Consultation Questions

Question	Your response
Question 1: (Section 4) Do you agree with our proposals on the coverage obligations as set out in this section? Please give reasons supported by evidence for your views.	Confidential? – N We support the proposal of coverage obligations, and we welcome the tangible requirement for at least 500 new mast sites and at least 140,000 premises to be catered for in each coverage obligation. We note, however, that the coverage obligations themselves are not obligatory (Para 1.14); there is therefore a risk (however small) that no bids are received for either of the two coverage obligations on

	offer, resulting in spectrum licences being awarded with no coverage obligations whatsoever. We also note that the coverage obligations aim for only 2 Mbps downlink rates, and that for Scotland, only 74% of the landmass need be covered. We believe that Dynamic Spectrum Access (DSA) could (and should) be applied to the 700 MHz band and the 3.6-3.8 GHz band (and even the full 3.4-3.8 GHz band). Such an approach would allow Ofcom considerable flexibility in controlling access to spectrum in different scenarios, and it could be implemented in stages, starting with relatively simple models for rural areas in the immediate term, followed by more refined models in due course.
Question 2: (Section 5) Do you agree that we have identified the correct competition concerns?	Confidential? – N We have no specific view on this.
Question 3: (Section 5) Do you agree with our assessment of these competition concerns, and our proposed measure for addressing them? Please give reasons supported by evidence for your views.	Confidential? – N We have no specific view on this.
Question 4: (Section 6) Do you agree with our proposal to proceed with a conventional assignment stage?	Confidential? – N We have no specific view on this.
Question 5: (Section 7) Do you agree with our proposal to use a CCA design for this award?	Confidential? – N We have no specific view on this, other than to re-iterate our support for flexible spectrum management approaches based on DSA.
Question 6: (Section 7) Do you have any comments on the proposed detailed rules for our CCA design?	Confidential? – N We have no specific view on this.
Question 7: (Section 8) Do you agree with our proposed approach to coexistence in the 700 MHz band?	Confidential? – N We have no specific view on this, other than to re-iterate our support for flexible spectrum management approaches based on DSA.
Question 8: (Section 8) Do you have any comments on the proposed licence obligation and guidance note (annex 19)?	Confidential? – N We have no specific view on this.
Question 9: (Section 9) Do you agree with our proposed approach to managing interim protections for registered 3.6-3.8 GHz band users?	Confidential? – N We have no specific view on this, other than to re-iterate our support for flexible spectrum management approaches based on DSA.
Question 10: (Section 9) Do you agree with our 3.6-3.8 GHz in-band restriction zone proposals?	Confidential? – N We have no specific view on this beyond our

	response to Question 9.
Question 11: (Section 9) Do you agree with our view that we do not need to include any specific conditions in 3.6-3.8 GHz licences to mitigate the risk of adjacent band interference?	Confidential? – N Yes, this seems reasonable.
Question 12: (Section 10) Do you agree with the non-technical conditions that we propose to include in the licences to be issued after the award of the 700 MHz and 3.6-3.8 GHz bands?	Confidential? – N We welcome Ofcom’s position on spectrum sharing in Paragraph 10.16 of the Consultation Document. We also welcome the possibility of roaming, as discussed in Paragraphs 10.22 & 10.23.
Question 13: (Section 11) Do you agree with the technical licence conditions we propose?	Confidential? – N We have no specific view on this.