

# **techUK response to the Ofcom consultation: Enabling opportunities for innovation**

10 St Bride Street  
London  
EC4A 4AD

T 020 7331 2000  
[www.techuk.org](http://www.techuk.org)

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## Introduction

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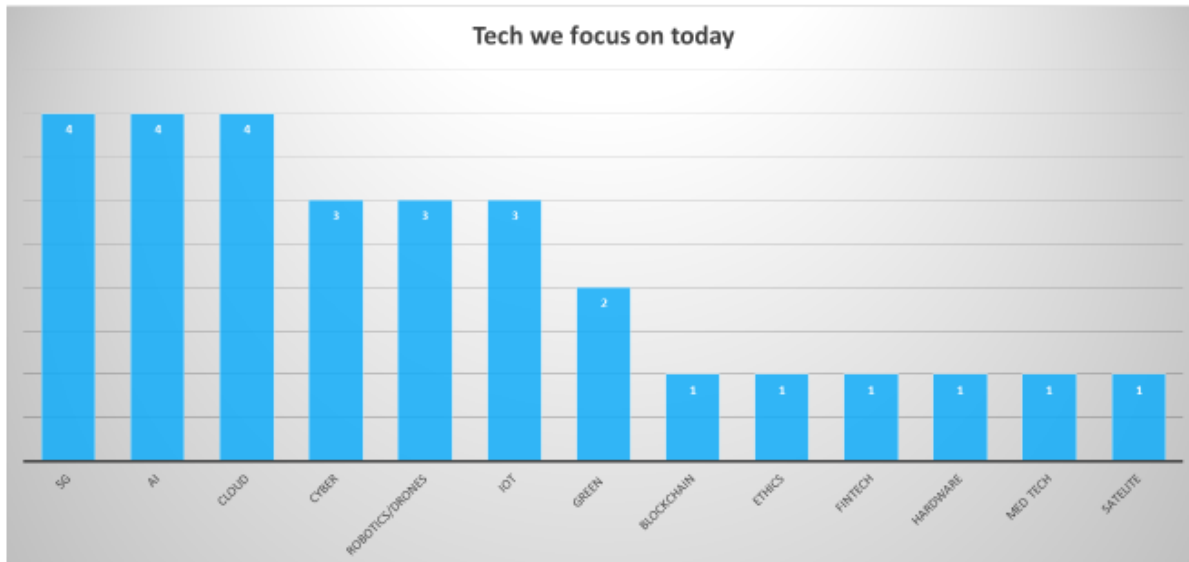
### About techUK

techUK represents the companies and technologies that are defining today the world that we will live in tomorrow. More than 900 companies are members of techUK. Collectively they employ approximately 700,000 people, about half of all tech sector jobs in the UK. These companies range from leading FTSE 100 companies to new innovative start-ups. The majority of our members are small and medium-sized businesses.

Our role as techUK is to ensure that we seize the potential for good and address the disruptive new challenges that change and innovation always present.

We work to understand the opportunities that technology provides; to support the companies and innovators that can realise those opportunities. This underpins our simple vision to ensure that tech is good for the UK, the UK is good for tech and that tech is good for people.

## Where techUK focuses on its resources



## **techUK response to the consultation**

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### **Introduction**

Connectivity to the internet has increasingly become seen as a utility, with an absence of reliable fast enough connectivity reducing life chances and the richness of life for consumers, and competitiveness for businesses. As such there has been increasing attention paid to the geographic area of the UK (covering not just homes, but also major transport routes, business parks, university campuses, caravan parks etc) not offering either fixed and/or mobile connectivity to meet today's demands. This has resulted in a focus in recent years on the opportunity cost of leaving mobile (i.e. harmonised by 3GPP) spectrum unused in those areas by its primary licensees, and the difficulty of third parties gaining access to said spectrum (a process not helped by the current Ofcom prohibition on Mobile Network Operators (MNOs) leasing any of their spectrum).

While it is far from clear the extent to which the MNOs are failing to address demand which is commercially viable, it is quite possible that some of this unmet demand could be met by third parties which had lower cost bases and/or possessed a more granular assessment of local demand e.g. a community-based operator. Rural areas often have factors affecting their demand for connectivity which are substantially different from urban and inner suburban areas where MNOs first look to deploy infrastructure e.g. where the vast majority of businesses are SMEs, school catchment areas are much larger than for those of urban schools, and the importance of second homes and seasonal population fluctuations may not be apparent from a centralised assessment of official statistics.

Ofcom is to therefore be congratulated for proposing such a radical shift in terms of access to mobile spectrum. techUK is supportive of the intent, although the devil will be in the detail, and techUK expects Ofcom to modify its proposals in light of responses to this consultation, to identify the balance between enabling speedy and cost-effective access to mobile spectrum for third parties, without unduly restricting the ability of primary licensees to execute network planning including their ability to react to changes in either demand or supply (e.g. changes in the cost of deployment, such as equipment costs, implications of the Electronic Communications Code, or civil works costs such as lane rental or labour availability, potentially influenced by Brexit).

*Question 1: (Section 3) Do you agree with our proposal for a single authorisation approach for new users to access the three shared access bands and that this will be coordinated by Ofcom and authorised through individual licensing on a per location, first come first served basis? Please give reasons supported by evidence for your views.*

Ofcom's proposals represent a welcome first step toward sharing and the more efficient use of mobile spectrum, that will help support the UK digital economy, increase coverage and spur innovation. techUK support Ofcom's duty to ensure it manages this vital resource as efficiently as possible in the interests of all users, and as such opening up these three bands to new and independent players (as well as to established players) is a welcome initiative.

techUK believe Ofcom may wish to consider further its specific means of enabling the proposal; to ensure the burden on applicants in receiving authorisation does not compromise potential adoption.

Industry urges Ofcom to accept electronic applications for licenses and for Ofcom to use automated spectrum management processes to ensure issuance of licences within a short time scale (days not weeks) and at low administrative cost.

Ofcom sets out its long-term ambitions to support greater sharing and flexibility in allocation of spectrum, including Dynamic Spectrum Access (DSA).

techUK welcomes Ofcom's ambitions to adopt technologies for enabling greater sharing of these bands.

techUK would welcome the opportunity to work with Ofcom to develop future techniques for flexible use of spectrum including the use of database assisted spectrum access and coordination technologies to more efficiently enable the individual licensing on a per location basis.

We note that Ofcom today implements database assisted access in conjunction with thousands of licences for a range of use cases; a pertinent example being PMSE at UHF. Coordination for the per-area/location licences proposed in this consultation can be readily handled in a similar manner by Ofcom databases.

Should the number of proposed per location licence applications grow to the extent that they can no longer be efficiently managed by Ofcom's databases, Ofcom may choose to outsource the coordination to an external party.

*Question 2: (Section 3) Are there other potential uses in the three shared access bands that we have not identified?*

We welcome Ofcom identification of some of the uses, however techUK would also note that the spectrum bandwidth being made available at 1800MHz is narrow, which may limit some of the potential usage.

3.8-4.2 GHz offers wider RF channels, and (especially in a Fixed Wireless Access deployment) may have some applicability outside urban and suburban areas, although there is currently no mobile equipment available for this spectrum, although chipsets are on the market.

*Question 3: (Section 3) Do you have any other comments on our authorisation proposal for the three shared access bands?*

techUK emphasizes the importance of Ofcom processing applications for licences in short timescales (days not weeks).

*Question 4: (Section 3) What is your view on the status of equipment availability that could support DSA and how should DSA be implemented?*

techUK is encouraged to see that Ofcom is taking on the role of coordinating existing and new users in the proposed three bands. This is essential to ensure that the risk of harmful interference is minimised, and is a pragmatic approach.

Ofcom already implements database assisted access in conjunction with licensing of shared spectrum, and Ofcom's tools and systems can be readily used for per-area/location licensing in the proposed three bands. At some point in the future, Ofcom may choose to outsource its database assisted access procedures to an external party. We do not foresee the need for any special additional functionality in the radio equipment in order to support this, although the equipment would need functionality to appropriately communicate with the spectrum access database.

*Question 5: (Section 4) Do you agree with our proposal for the low power and medium power licence? Please give reasons supported by evidence for your views.*

techUK has not responded to this question.

*Question 6: (Section 4) Are there potential uses that may not be enabled by our proposals? Please give reasons supported by evidence for your views.*

techUK has not responded to this question.

*Question 7: (Section 4) Do you agree with our proposal to limit the locations in which medium power licences are available? Please give reasons supported by evidence for your views.*

techUK has not responded to this question.

*Question 8: (Section 4) Do you have other comments on our proposed new licence for the three shared access bands?*

techUK has not responded to this question.

*Question 9: (Section 4) Do you agree that our standard approach to non-technical licence conditions is appropriate? Please give reasons supported by evidence for your views.*

techUK has not responded to this question.

*Question 10: (Section 4) Are you aware of any issues regarding numbering resources and Mobile Network Codes raised by our proposals which we have not considered here?*

techUK has not responded to this question.

*Question 11: (Section 5) Do you agree with the proposed technical licence conditions for the three shared access bands? Please give reasons supported by evidence for your views.*

techUK has not responded on this question.

*Question 12: (Section 5) Are there other uses that these bands could enable which could not be facilitated by the proposed technical licence conditions? Please give reasons supported by evidence for your views.*

techUK has not responded to this question.

*Question 13: (Section 5) Do you agree with our proposed coordination parameters and methodology? Please give reasons supported by evidence for your views.*

techUK believe the proposed coordination parameters and methodology seem broadly proportionate.

*Question 14: (Section 5) What is your view on the potential use of equipment with adaptive antenna technology (AAS) in the 3.8-4.2 GHz band? What additional considerations would we need to take into account in the technical conditions and coordination methodology to support this technology and to ensure that incumbent users remain protected?*

techUK has not responded to this question.

*Question 15: (Section 5) Do you agree with our proposal not to assign spectrum to new users in the 3800-3805 MHz band and the 4195-4200 MHz band?*

techUK has not responded to this question.

*Question 16: (Section 6) Do you agree with our fee proposal for the new shared access licence? Please give reasons supported by evidence for your views.*

techUK in principle agree with the fee proposals for the new shared access licence however, Ofcom need to consider how any fee they charge aligns with their overall policy objective. For new adopters making use of this spectrum techUK would urge that this fee be as low as possible so as not to deter appetite to use this spectrum in new and innovative ways.

*Question 17: (Section 7) Do you agree with our proposal to change the approach to authorising existing CSA licensees in the 1800 MHz shared spectrum? Please give reasons supported by evidence for your views.*

techUK has not responded to this question.

*Question 18: (Section 8) Do you agree with our proposal for the Local Access licence? Please give reasons supported by evidence for your views.*

We welcome Ofcom's proposals for the Local Access licenses, where potential applicants would probably need a degree of comfort as to what conditions might justify a primary licensee objecting. techUK notes that leasing is not permitted in mobile spectrum but other options, that provide more incentives to share spectrum, based on market principles, that would reflect the costs of the MNOs in considering sharing requests and the impact on their ability to use spectrum in accordance with their rights under the existing licences, could be envisaged. techUK does not have a specific proposal in this regard but is open minded as to how Ofcom's objectives are best achieved.

*Question 19: (Section 8) Do you have any other comments on our proposal?*

techUK has considerable concerns about Ofcom's ability to scale the proposed labour-intensive approach to responding to applications for local access licences. While it is impossible to know how many applications Ofcom might receive, offering cost-effective access to all licensed mobile spectrum from day one could easily result in an initial flood of applications.

*Question 20: (Section 8) What information should Ofcom consider providing for potential applicants in the future and why would this be of use?*

techUK has not responded to this question.

*Question 21: (Section 8) Do you agree with our proposal to have a defined licence period and do you have any comments on the proposed licence term of three years?*

While techUK support this in principle, Ofcom need greater flexibility. In some cases, for temporary installations and events, a shorter period for local access licences may be more appropriate. In others, a longer term one may reflect a) local context and b) the need for certainty before investing in supporting equipment and infrastructure. Similarly, the existing MNOs may have plans that change within the three year minimum timescale of the proposed new local access licences.

*Question 22: (Section 8) Do you have any other comments on the proposed Local Access licence terms and conditions?*

techUK believes that it would be unreasonable to constrain the efficient operation of equipment (which, for 5G, requires 80-100 MHz wide RF channels) deployed by local access licensees as a result of the spectrum allocations made originally to primary licensees.

An applicant should be able to be licensed to use all unused adjacent spectrum in the desired location if they wished to do so subject to the approval of the MNO(s) concerned.

*Question 23: (Section 8) Do you agree with our fee proposal for the new local access licence? Please give reasons supported by evidence for your views.*

techUK agree with the fee proposals for the new local access licence, with the conditions set out above (16). techUK notes that the current proposed fee recovers Ofcom's costs, but recovery of the costs to MNOs of considering sharing requests or the opportunity costs that may arise from the existing MNO perspective where shared access is granted may require a commercial agreement.