

## Arqiva submission to Ofcom's consultation, *Enabling opportunities for innovation*

### **About Arqiva**

Arqiva is a communications infrastructure and media services company operating at the heart of the mobile and broadcast communications industry. Arqiva provides infrastructure for television, radio, mobile and other wireless communication in the UK.

Arqiva operates shared radio site assets throughout the UK working with the mobile industry for over two decades and with a significant presence in suburban and rural areas. Our portfolio includes over 8,000 active mobile, radio and television sites.

Arqiva worked with DCMS to build new shared sites in 'not-spots' as part of the Mobile Infrastructure Programme (MIP). We also extend the MNOs' coverage and capacity into challenging environments such as Canary Wharf and the ExCel Centre.

Arqiva is building a national Internet of Things ("IoT") network, starting with 10 of the UK's largest cities. Our smart metering service, connecting 10 million homes using long-range radio technology, will be one of the UK's largest machine-to-machine deployments.

Arqiva is a founder member and shareholder of Freeview. We broadcast all eight Freeview multiplexes, are the licensed operator of four of them. Arqiva is the licensed operator of both national commercial DAB digital radio multiplexes.

Arqiva is a major player in the UK's satellite industry, and is a major provider of permanent satellite services to both Freesat and Sky customers. Arqiva also provides global satellite based services to the security, oil & gas and exploration sectors.

Arqiva is owned by a consortium of long-term investors and has its headquarters in Hampshire, with major UK offices in London, Buckinghamshire and Yorkshire.

## Responses to questions

**Question 1:** 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.

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

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

We agree with the proposed approach as it relates to the 3.8-4.2 GHz band as long as incumbent uses and users are subject to existing established coordination processes (Ofcom sets out this principle in paragraph 3.10). In that sense, we are agnostic as to *what* services could be used in the band as long as incumbent services do not suffer harmful interference as a result of their introduction.

This is consistent with our views as set out in the 2016 Call for Inputs, *Opportunities for innovation*, where we agreed that there was genuine scope for new uses in this spectrum as long as robust protections were in place for incumbent users.

In terms of the current coordination arrangements with Ofcom; while these broadly work, we are unclear as to whether they would be sufficiently robust if denser roll out of additional services were authorised. At present, Ofcom typically assesses the impact into one of our Earth Stations from, for example, an individual fixed link. These proposals may facilitate more significant deployments and Ofcom would need to assess the aggregated power of multiple carriers. We would be grateful for further information from Ofcom on how that would be considered under the current technical approach.

That being said, we broadly support the assumption that the likeliest sharing scenario for the 3.8-4.2 GHz band is for fixed wireless access. This is consistent with the sharing arrangements, for example, in the 28 GHz band which is licensed for both satellite and fixed terrestrial services. Our experience as a licensee for both services in the same frequencies is that interference can be effectively managed between them.

Ofcom does not explicitly refer to its enforcement duties as part of this consultation. In particular, it does not set out what its approach would be in the event that new services unexpectedly cause harmful interference into incumbent users. This is important in the context of Ofcom otherwise treating all services equally, for example:

*We are proposing that new users will have first come first served access on the same basis, and with equal priority, as existing users*

Ofcom needs to give further clarity on how it will deal with interference issues as and when they arise. Our view is that, where both parties are operating lawfully and in compliance with their licence, Ofcom should focus its enforcement action on the new user.

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

We are not best placed to give a view on this question.

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

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

**Question 7:** 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.

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

Our starting point for responding to these questions is to understand to what extent they are consistent with existing coordination practices for new services wishing to use the 3.8-4.2 GHz band. On the basis that Ofcom will be continuing to use the same technical approach than it does at present, then we would not object to its proposals.

In the case of medium power licence applications, however, Ofcom does seem to be applying a strange logic as they would apply to co-existing with Permanent Earth Stations. It is suggesting that medium power applications would be restricted to what it terms "rural areas" as this would minimise the risk of restricting the availability of spectrum for other services. But it is just these rural areas that PESs tend to locate themselves, in part, to ensure interference free access to spectrum.

We also note that paragraph 4.17 states Ofcom will take a case-by-case approach to any application. This, in our view, renders the general approach to "rural areas" meaningless in any case. We suggest that Ofcom, in the first instance, adopts a conservative approach to authorising new uses of the spectrum in the 3.8-4.2 GHz band – allowing fixed use and avoiding existing users of the spectrum.

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

The proposals as set out by Ofcom appear to represent a standard approach to licensing as adopted for most other services. We can see no reason for deviating from that in this case.

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

We are not best placed to give a view on this question.

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

**Question 12:** 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.

We repeat our broader comment from above that we do not object to the proposed technical licence conditions as long as they are based on existing technical assumptions – which we know from practice are broadly effective.

The proposed technical parameters between 3.8-4.2 GHz do not appear to be sufficient to create a significant risk of interference into our PESs. However, we would repeat the point above that should be explicit that it will take immediate remedial measures through its enforcement team where any issues of interference are reported from new users.

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

**Question 14:** 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?

We have no further comments on this.

**Question 15:** 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?

On the basis that this only relates to new users and does not affect the spectrum available for satellite downlink purposes, we have no comment on this proposal.

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

We have no view on this proposal.

**Question 17:** 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.

We are not best placed to give a view on this question.

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

**Question 19:** Do you have any other comments on our proposal?

There are flaws with Ofcom's proposed approach to enabling access to spectrum licensed to mobile operators, although it is commendable that it is even looking at the possibility of allowing this. The first point we would make is that Arqiva has already been requesting clear arrangements to enable sharing in the 700 MHz duplex gap in advance of the award of that spectrum in 2020. Unlike with this proposed approach, there has been no commitment from Ofcom to set out a fair process and take a more active role in facilitating this arrangement. It is not clear what the policy justification is for this and to be consistent and equitable to all end consumers Ofcom should take this approach to the 700 MHz duplex gap.

It is worth noting the facilitative approach from Ofcom in paragraph 8.10 for these new services seeking to share mobile spectrum, namely:

*At the heart of this process is [Ofcom] working with the incumbent licensee(s) to facilitate third party access which does not interfere with the existing licensee and provide a central point of contact to ensure all requests are considered*

This contrasts starkly with our own experience of trying to facilitate sharing arrangements in the 700 MHz duplex gap. This is to enable valued DTT services to operate in spectrum which will likely not be immediately used by the new mobile licensees. In its recent consultation document on the 700 MHz and 3.6 GHz award, Ofcom has proposed a comparatively "hands off" approach and, to date, has not offered similar offers to come to an outcome that suits all stakeholders. Again, to be consistent and equitable to all end consumers, Ofcom should take this more proactive approach to sharing in the 700 MHz duplex gap.

Added to this, there is no obvious incentive for a mobile operator to consent to any application to use its licensed spectrum. Indeed, if there was an incentive, one would expect this to be addressed through the spectrum trading process as a commercial negotiation. In contrast, a mobile operator could rationally be reluctant to tie its hands to an agreement which prevented a future deployment of its own, not currently planned for. In the absence of any compelling reason to allow sharing in its spectrum and with no proposals to mandate such an arrangement, it is unclear how this proposal can work in practice.

We would suggest that Ofcom needs to be clearer in defining more precisely the role of the incumbent in this process. This is also the case with its policy around the use of the centre gap. In particular, it needs to be clear whether the existing licensee will have a veto over the licensing of new users.

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

We do not offer a view on this question.

**Question 21:** 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?

A three-year licence period appears reasonable for new users of the spectrum in theory, although we repeat our pessimism as to whether mobile operators will be in a place to consent to shared spectrum access.

We also draw a comparison between the three-year licence being offered in this consultation and the rolling one-month notice being proposed for Arqiva's use of the 700 MHz duplex gap. Absent any clear policy justification, Ofcom should take the same three year approach for the 700 MHz duplex gap that it has proposed for all other spectrum bands.

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

We have no further comments on this.

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

We have no view on this proposal.