

## Small Scale DAB trial

### About Arqiva

Arqiva is a communications infrastructure and media services company operating at the heart of the broadcast and mobile communications industry and at the forefront of network solutions and services in an increasingly digital world. Arqiva provides much of the infrastructure behind television, radio and wireless communications in the UK and has a growing presence in Europe, Asia and the USA.

We offer cellular, wireless broadband, video, voice and data solutions for public and private sector customers.

Arqiva operates around 8,000 shared radio sites throughout the UK, including masts from under 30 to over 300 metres tall. We have worked with the mobile industry over two decades to deliver mobile services to consumers with a significant presence in suburban and rural areas. Our success can be demonstrated through high levels of sharing on our infrastructure. In Arqiva WiFi we own one of the UK's largest Wi-Fi hotspot providers that enables us to build a unique proposition for public Wi-Fi and small cell mobile network solutions in the UK.

Arqiva is a founder member and shareholder of Freeview. We broadcast all six Freeview multiplexes, are the licensed operator of two of them and we own Connect TV, the first company to launch a live IP streaming channel on Freeview. Arqiva was also a key launch technology partner for Freesat and is the licensed operator of the Digital One – the national commercial DAB digital radio multiplex.

We are building and running a national Internet of Things ("IoT") network, starting with 10 of the UK's largest cities. In addition our smart metering communications service, connecting 10 million homes using long-range radio technology, will be one of the UK's largest machine-to-machine deployments.

Our major customers include EE, H3G/Three, Telefonica/O<sub>2</sub>, Vodafone, BBC, ITV, Channel 4, Five, BSkyB, Global Radio, Bauer Radio, UTV, the Metropolitan Police, Airwave and the RNLI.

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.

# Small Scale DAB trial

## 1. Summary

Arqiva is pleased to have the opportunity to respond to Ofcom's consultation on small scale DAB trials and we welcome this and the other work that Ofcom is carrying out to consider the possibilities for enabling small scale radio services to broadcast on a digital radio platform. We believe that trying to find a long term digital future for these services is the right thing for radio listeners.

We have responded to the specific questions as below but we would particularly urge Ofcom to consider expanding the scope of the trial to use interleaved spectrum. The trial is planned to be carried out on channel 11A. Whilst this channel is currently vacant it is due to be licensed for the second national commercial DAB service. As Ofcom notes it may be required for this purpose before the completion of the small scale trial. Given that this would mean curtailing the trial and that 11A will not be available for any long term small scale services, using interleaved spectrum would both avoid disrupting the trial and also provide insights that may lead to a long term solution for small scale radio services to broadcast on a digital radio platform.

## 2. Detailed answers

**Question 1:** *Do you agree that we have identified the objectives which the small scale DAB multiplex trial should seek to achieve?*

Ofcom list three principal objectives in paragraph 1.2 of the consultation and we address them in turn below.

Ofcom firstly state that they wish to "test the function, capability and stability of software-defined DAB multiplex services, particularly in an SFN mode". These are all very important aspects that affect the listening experience. Function and capability can be tested prior to going into service and during the trial by periodic testing however it's not clear from the Consultation whether Ofcom is intending to require the licensees to continuously monitor the broadcasts during their periods of operation to assess their stability.

To avoid interference with other licensed services and to gain the maximum value from the trial, we believe it would be essential that the stability of the systems be monitored continuously throughout the trial using telemetry systems or remote monitoring receivers particularly when operating an SFN using synchronised transmitters or on-channel repeaters

Ofcom secondly say that they wish to "test how well the available technology lends itself to several parties coordinating their services into the multiplex (many small scale radio services do not have experience of using multiplexing technology)". We agree that this is an appropriate objective.

Finally Ofcom state that they wish to "give the market an opportunity to learn about the software-defined DAB platform and the potential opportunities it affords, particularly for those stakeholders who are not familiar with digital broadcasting". We agree this is an important aspect for this trial however Ofcom should not close the door to alternative low-cost multiplexing and transmission systems where they might also meet the requirement of providing low cost DAB transmission.

**Question 2:** *Are there any other questions or issues which the small scale DAB multiplex trial should seek to address?*

This consultation notes that the trial can be carried out on channel 11A which is to be licensed for the second national commercial DAB service. Whilst this channel is currently vacant, Ofcom notes that it may be required for the second national service before the completion of the small scale trial which would mean curtailing the trial and in any event 11A will not be available for any long term small scale services.

Our suggestion would be that Ofcom widens the scope of the trial to use interleaved spectrum where it is available so as to avoid disrupting the trial during testing of the D2 network and to gain valuable insight into how interleaved spectrum might be used for small scale DAB

## **Section 2 – Technical licence conditions and requirements**

**Question 3:** *Do you agree with our proposed technical licence conditions?*

Ofcom is proposing that equipment used for the trials use non-critical mask filtering which does not provide the same degree of protection to services on adjacent channels. In some cases, the effective radiated power proposed for these trials will be in excess of those used at smaller national and local DAB transmission sites. Therefore, before making a final decision, Ofcom should publish for consultation its proposals for mitigating any problems that may result.

## **Section 3 – Non-technical DAB multiplex licensing conditions**

**Question 4:** *Do you agree with our approach to non-technical licence conditions and requirements?*

We agree with Ofcom's proposed approach to non-technical licence conditions and requirements

## **Section 4 – Application and assessment process**

**Question 5:** *Do you agree with our proposed approach to awarding trial licences?*

We agree with Ofcom's proposed approach to awarding trial licences.

## **Section 5 – Concluding the trial**

**Question 6:** *Do you agree with our proposals set out in this section in relation to final reporting obligations, the recovery of the equipment and the extension of trial licence duration?*

In paragraph 5.9 Ofcom states that they may wish to extend the trial beyond the initial nine months. If channel 11A is used, this may not be possible due to its impending use for the second national commercial licence and we would urge Ofcom to consider using interleaved spectrum to avoid disruption to the trial and to promote spectrum efficiency.