

## **Arqiva—supplementary written evidence (BFF0066)**

### **House of Lords Communications and Digital Committee inquiry into BBC future funding**

#### **Follow-up evidence to Shuja Khan’s appearance on 5 April 2022**

##### **1. What are the alternative uses of spectrum that could be gained from a future radio transition?**

This question was most recently discussed during the recent Digital and Radio Audio Review.<sup>1</sup>

The final report concluded that radio spectrum has limited alternative uses:

“6.7 Two of the drivers for television switchover do not apply to the long-term transition of radio to digital. Firstly, VHF spectrum[footnote 132] used by FM services has limited alternative uses (for example, it is not attractive for mobile phone services) and it therefore lacks the financial value that analogue television switchover achieved. Secondly, to reach the widest possible coverage for digital television some analogue television spectrum needed to be reused. DAB networks could be expanded to higher levels without requiring reuse of any of the spectrum currently used for FM radio.”

The potential for spectrum to be re-used was covered in greater detail in Ofcom’s submission to the review.<sup>2</sup>

Section 6 of the Ofcom report looked at potential alternative (non-broadcast uses) for the spectrum currently used by AM broadcasting in the Medium Wave band (530-1603 kHz) and FM broadcasting in Band II (87.5-108 MHz). The study concludes that:

- There has been no evidence of demand or requests from stakeholders for access to Band II or MW spectrum for non-broadcasting use.
- Ofcom’s studies did not conclude a clear or emerging picture of how AM and FM spectrum could be used if vacated by broadcasting. Although several different technologies and applications were reviewed, there was no evidence of development, demand or compatible equipment that could be used if these frequency bands were vacated.
- The total bandwidth that would be available if the whole of Band II were to be made available is just over 20MHz. The amount of bandwidth available to any individual device using that band would most likely be significantly

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<sup>1</sup> <https://www.gov.uk/government/publications/digital-radio-and-audio-review/digital-radio-and-audio-review#fnref:132>

<sup>2</sup> [https://www.ofcom.org.uk/\\_data/assets/pdf\\_file/0015/225033/Ofcom-Contributions-to-DCMS-Digital-Radio-and-Audio-Review.pdf](https://www.ofcom.org.uk/_data/assets/pdf_file/0015/225033/Ofcom-Contributions-to-DCMS-Digital-Radio-and-Audio-Review.pdf)

less, or be time-shared in some way, to manage interference between users.

- In the absence of any international moves to standardise alternative technologies in Band II, potential candidates for alternative technologies that could be considered to use a modest bandwidth either planned or on an opportunistic basis include the Internet of Things Devices, White Space Devices and remote telemetry, for example by utility companies.
- The Internet of Things (IoT) is the interconnection via the internet of computing devices embedded in everyday objects, enabling them to send and receive data. The popularity of IoT, and the various solutions this technology provides has resulted in increased development and a rise of use in business applications. As a result, there may be demand for Band II spectrum for IoT applications if that capacity ever becomes available. As the spectrum remains in use for broadcasting in most countries in the world, the market for such devices is small and there is no known demand at present.
- Potential use for White Space Devices includes infrastructure monitoring and commercial wireless broadband applications but the concept of these devices and the demand for these applications is currently low within the marketplace which would suggest little or no demand at present for use of Band II or MW spectrum.
- The use of this spectrum for remote telemetry by utility companies is a possibility. Development within the utilities sector of smart meters and infrastructure sensors continues, but with no current demand for access to additional spectrum. If monitoring or the transfer data requirements grow a demand for spectrum could develop.

Arqiva notes that interference risks would be a key consideration in any re-use of spectrum used for radio services, both to avoid interference internationally and to surrounding spectrum bands. This may mean that alternative uses would need to be low power in nature. The spectrum is adjacent to private mobile radio (80-87.5MHz) and Aeronautical (108-118MHz), which could require coexistence restrictions depending on any alternative use.

## **2. Do you have information about organisations elsewhere that have looked at conditional access for analogue radio/DTT?**

In relation to radio, the most obvious example of a conditional access enabled subscription service delivered via a broadcast platform is the satellite radio service SiriusXM in North America.<sup>3</sup>

Arqiva is not aware of any encrypted radio services with conditional access based around DAB or analogue radio broadcasting with radio broadcasters focusing on free-to-air delivery. We understand that it may be technically possible via the DAB standard to incorporate conditional access<sup>4</sup> but we are not

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<sup>3</sup> <https://www.siriusxm.com/>

aware of any evidence of this being adopted. Crucially, this is not supported by UK receivers so it would require a full replacement of radio equipment if it was to be implemented.

In relation to DTT, there are examples from around Europe where conditional access and encryption has been used.

In the UK, ONdigital which was launched in 1998 (and became ITV Digital in 2001) was an attempt to develop an encrypted pay service built around DTT. The service was not successful and closed in March 2002. This led to the creation of Freeview built around DTT which offered a free-to-air services and has gone on to become a major success serving around 17m households according to Broadcasters' Audience Research Board (BARB) data.

In 2004, there was an attempt to introduce a pay element to Freeview with the launch of the Top UP TV service. This encrypted some TV channels and required a dedicated set top box to decode the signal. Top UP TV gained around 200,000 subscribers but ultimately ceased broadcasting in 2013.

Whilst the majority of DTT platforms have focused on delivering free-to-air unencrypted TV services, across Europe there are some DTT services which have enabled a pay-TV component via encryption and a conditional access system built into a dedicated set top box e.g. the KPN Digitenne in the Netherlands. Some pay services built around DTT have also ceased, including the pay DTT service provided by Mediaset in Italy which ended in 2019.

*14 April 2022*

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<sup>4</sup> [https://www.etsi.org/deliver/etsi\\_ts/102300\\_102399/102367/01.02.01\\_60/ts\\_102367v010201p.pdf](https://www.etsi.org/deliver/etsi_ts/102300_102399/102367/01.02.01_60/ts_102367v010201p.pdf)