



**Response to Ofcom  
Consultation**

**‘Future role of spectrum sharing for mobile  
and wireless data services’**

8 November 2013



## 1. Introduction

### About Digital Terrestrial Television (DTT)

Digital Terrestrial Television (DTT) is the UK's most popular TV platform. At its heart is Freeview – a universally available service offering a range of more than a hundred free-to-air TV, radio and text-based services. It is watched in more than 19 million homes, three-quarters of the total. Freeview is the sole television platform in more than 10 million homes (40%)<sup>[1]</sup>.

Prior to digital switchover (DSO), more than four million UK households could not access Freeview and elsewhere signal strength was variable. Thanks to industry investment in excess of a billion pounds, switchover made Freeview available to 98.5% of homes

Viewers are overwhelmingly satisfied with the Freeview service<sup>[2]</sup>, and post-switchover research demonstrated viewers enjoyed the selection of channels, picture quality and functionality.<sup>[3]</sup>

### About Digital UK

Digital UK supports the UK's terrestrial TV service and its viewers.

The company is responsible for day-to-day operational management, including the Freeview electronic programme guide, and leads on developing platform strategy, working with its broadcast partners and industry. It also provides viewers with information and advice about terrestrial TV channels, services and reception.

Digital UK is owned by the BBC, ITV, Channel 4 and Arqiva.

## 2. Our response

In principal we are supportive of Ofcom's promotion of spectrum sharing as a means of securing a more efficient use of spectrum. We recognise that this could enable more innovative services for UK consumers but would also emphasise the importance of ensuring that consumer access to existing services is not compromised in the process.

In our response to Ofcom's previous Calls for Inputs, *Future demand for mobile broadband spectrum and consideration of potential bands*, we set out the significant uncertainty surrounding future mobile data demand forecasts. However, even with the more modest increase in data demand that we believe is emerging, policy makers are inevitably going to have to consider how best to use spectrum to meet increasing mobile data demand and to enable future deployment of innovative new mobile services.

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<sup>[1]</sup> Source: Ofcom Digital TV Update, Q4 2012

<sup>[2]</sup> 84% of Freeview viewers surveyed between April 2012 and March 2013 reported that they were satisfied with the Freeview service. Source: Hall & Partners Freeview brand tracker; sample 5,200 homes.

<sup>[3]</sup> See the Blinc / Digital UK research report 'Viewer Experiences of Switchover', available on the Digital UK Switchover Insights website.

In that response, we also discussed the parallel importance of Wi-Fi in meeting any increase in mobile data demand that *does* emerge. We do not intend to repeat our earlier views in the same length in this submission. However, we do consider it informative that, even in the short period since March 2013, further evidence has come to light that small-cell offloading in general, and Wi-Fi in particular, is playing a significantly greater role in meeting data demand than Ofcom had previously accounted for.

We welcome Ofcom's publication of this consultation as recognition of the growing importance of Wi-Fi and other off-loading techniques in meeting mobile data demand. We also support the UK being at the forefront of innovative spectrum sharing initiatives such as White Space Devices on the basis of protecting existing services from harmful interference.

Our general observations as they relate to issues raised in this consultation are:

- mobile data demand forecasts (especially those beyond 2020) are inherently uncertain and, based on the margins of error involved, appear to amount to little more than guesswork<sup>1</sup>. As a result, any significant policy decisions based on those forecasts should err on the side of caution;
- the importance of Wi-Fi and other off-loading techniques using high frequency spectrum in meeting any future increases in data demand is becoming clearer and is greater than previously acknowledged by Ofcom and others;
- there is further evidence that future growth of mobile data traffic off-loaded to Wi-Fi will significantly outstrip growth of mobile data traffic carried on macro-cellular networks. This will likely require additional spectrum allocations for Wi-Fi; and
- spectrum sharing and licence exemption potentially represent efficient spectrum use which we support in principle. However, this should not be at the expense of licensed services currently enjoyed by consumers, such as DTT.

Ofcom refers to the recent WIK/Aegis report<sup>2</sup> for the European Commission, published earlier this year. It quotes from that report that 71% of total mobile data traffic is being carried over Wi-Fi connections. That percentage looks set to grow with the rapid rolling out of, amongst other things, femtocells and metrocells. Indeed, WIK/Aegis state:

*The volume of traffic that is already being off-loaded, chiefly to Wi-Fi in the home, already exceeds that of the mobile network, and can be expected to grow even faster as well [our emphasis]*

As we set out earlier this year, we believe that there is evidence that even the figure of 71% may, in fact, be on the conservative side. In particular, BBC iPlayer statistics show that amongst iOS users (which represented approximately 85% of all requests from mobile devices in an average week in February 2013), 92% of plays were requested via Wi-Fi compared to just 8% via 3G.

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<sup>1</sup> For example, the recent report from Real Wireless

<sup>2</sup> <http://bookshop.europa.eu/en/study-on-impact-of-traffic-off-loading-and-related-technological-trends-on-the-demand-for-wireless-broadband-spectrum-pbKK0113239/>

The implications for this are far-reaching. At a time when representatives of the mobile sector are calling for ever-increasing allocations of low frequency spectrum<sup>3</sup> for macro-cellular networks – in particular sub-1GHz spectrum – there is growing focus on higher frequencies to enable more efficient frequency re-use and increased cell capacity. This approach is significantly more effective at meeting high levels of demand than traditional lower frequency networks.

We therefore support any initiative from Ofcom that will support this efficient use of spectrum and which ensures that consumers can enjoy existing services without a risk of harmful interference into the technology supporting those services.

On some points of detail, we agree that download speeds from Wi-Fi are likely to increase with the introduction of the latest 802.11ac standard. This will clearly provide challenges for policy makers as 80 MHz and 160 MHz bandwidths will be required to deliver higher data-rates. Clearly, this will not be viable within existing spectrum allocations at 2.4 GHz and 5 GHz. As a result, the 5 GHz band will likely need to be extended to play a key role in facilitating the introduction of newer, higher bandwidth, standards. However, such an extension would need to be done in a way that does not cause interference into existing services using the band.

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<sup>3</sup> Reference the work of ITU WP5A