Mobile Data Strategy

British Sky Broadcasting Group plc ('Sky') Response

Introduction

1. Sky welcomes the opportunity to respond to Ofcom's consultation on mobile data strategy ("the Consultation")

2. Sky is a heavy spectrum user, with activities ranging across many frequency bands. We use spectrum to deliver our services (via satellite, DTT, Wi-Fi and mobile), to create our content (using wireless microphones and cameras) and to connect our customers (through in-home and public Wi-Fi).

3. Our varied use of spectrum makes us well placed to appreciate the tensions between competing applications which make use of scarce spectrum, and the challenges that policymakers may face when considering approaches to spectrum policy prioritisation in the medium- to long-term.

4. Sky is also a member of the Dynamic Spectrum Alliance, and supports the submission made by that organisation in response to the Consultation. This response is made in addition to the submission from the DSA.

Wi-Fi will continue to play a fundamental role in serving demand for mobile data

5. Sky concurs with Ofcom's view that there is likely to be significant continuing growth in demand for mobile data services. As the Consultation notes, increased video traffic and potential M2M communications are likely to be key drivers behind this, alongside the possibility of new and innovative services which are yet to emerge.

6. In many of Sky's previous responses to Ofcom, we have outlined our views on the future levels of demand for wireless data transfer, and the crucial role that Wi-Fi plays and will likely play in meeting this demand. In summary, the evidence suggests that Wi-Fi already plays a fundamental role in the wireless data ecosystem as the primary technology which consumers use for data transfer. That role is expected to become increasingly important as Wi-Fi helps meet the growing demand for wireless data. In so doing, this will significantly enhance the value of applications that make use of Wi-Fi and the benefits that the technology offers to consumers.

7. Wi-Fi plays a fundamental role in the wireless data ecosystem as the primary technology which consumers use for data transfer. In the case of smartphones and tablets, Wi-Fi carries 69% of total traffic generated. For traditional PCs and laptops, Wi-Fi is responsible for

carrying 57% of total traffic, greater than the share of Ethernet connections and 3G data combined[1].

8. This role is only anticipated to increase as Wi-Fi helps meet the growing demand for wireless data, and in doing so increases the value of applications which make use of Wi-Fi significantly. For example, Ofcom acknowledges that half of the predicted increase in wireless data demand can be expected to be served by offloading mobile data onto fixed networks, including Wi-Fi networks[2].

9. Indeed, Wi-Fi should be recognised as a significant wireless technology in itself, not merely as an additional method to connect cellular devices. Globally there are expected to be over 3 billion Wi-Fi devices sold in 2013, and many consumer devices do not have cellular capability – for example, Ofcom estimates that 76% of tablets are Wi-Fi-only devices[3].

10. This growth is predicted to continue. The European Commission estimates that Wi-Fi traffic growth is around 4-6 times that of cellular data growth, with 4 out of 5 new wireless technologies using unlicensed spectrum[4].

11. The primacy of Wi-Fi (both currently and as anticipated in the future) is unsurprising given the benefits that the technology delivers to consumers. Typically the cost of accessing Wi-Fi is considerably less than mobile services, and often at zero cost to the consumer, which may in part account for Wi-Fi usage being higher. Alongside this, Wi-Fi offers high data transfer speeds, reliability of connection and widespread adoption in the most popular consumer devices.

12. The evidence suggests that facilitating the expansion of Wi-Fi – both in terms of coverage and capacity – should be a key priority for Ofcom.

Ofcom should prioritise release of licence-exempt spectrum suitable for Wi-Fi

13. Ofcom is correct in identifying the 5 GHz band as an area of high priority in respect of mobile data. Sky notes that Ofcom's estimate is that such a band would be 'potentially supported in devices from 2016-2018'. In fact, with the FCC much further forward in releasing this spectrum, the likelihood is that these new frequencies would be supported much earlier (many user devices will only require a software upgrade, rather than incorporating new radios).

14. Sky considers it imperative that Ofcom takes steps toward ensuring greater spectrum availability by extending the 5 GHz spectrum availability to licence free use by adding 5350-5470 MHz (120 MHz) and 5850-5925 (75 MHz) at the earliest opportunity. Ofcom should also look to adopt a dynamic spectrum access approach in these bands, rather than the dynamic frequency selection (DFS) mechanism which hinders 5 GHz deployment (in contrast to the relative freedom afforded at 2.4 GHz). Furthermore, Sky is of the view that limiting the allowed

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1 See the report by Richard Thanki "The Economic Significance of Licence- Exempt Spectrum to the Future of the Internet", June 2012.

2 Paragraphs 1.8, 1.10, 'Securing long-term benefits from scarce spectrum resources', Ofcom, March 2012. Available at: http://stakeholders.ofcom.org.uk/binaries/consultations/uhfstrategy/summary/spectrum-condoc.pdf

3 Ofcom, 'Communications Market Report 2013', available at: http://stakeholders.ofcom.org.uk/binaries/research/cmr/cmr13/2013_UK_CMR.pdf

4 Presentation by Pearse O'Donohue, Head of Radio Spectrum Policy Unit, DG Infosoc, April 2012. Available at: http://www.cambridgewireless.co.uk/Presentation/CWS-EC_Pearse%20ODonohue.pdf

channel bandwidth to a maximum of 40 MHz would ensure more efficient spectrum use and minimise co-channel interference in locations where spectrum is highly utilised.

15. The Consultation notes that this issue is being examined by WRC working groups, and that work on coexistence is being undertaken. Given the evidence, Ofcom should take steps to accelerate this process and advocate far more forcefully for such an allocation.

16. Even this measure may not be sufficient to meet expected demand. A recent report by Real Wireless estimated that the UK will face a serious spectrum shortage by the end of this decade if 350 MHz of Wi-Fi spectrum is not made available[5]. Ofcom should therefore also examine other bands which may be suitable for licence-exempt designation.

17. In particular, it is notable that the FCC is examining the liberalisation of spectrum in the 3550-3650 MHz band for small cell networks and spectrum sharing use, and considering extending this use into the 3.7 GHz band. Given that harmonisation of spectrum allows for greater economies of scale in respect of equipment, and leads to consumer devices that are able to work across national borders, Ofcom should give significant consideration to following the FCC's lead in this.

Ofcom should act in manner consistent with its duties and incentivise the most efficient use of valuable spectrum

18. In developing a mobile data strategy, it is crucial that Ofcom takes steps to deliver the greatest possible level of spectrum efficiency, in line with Ofcom's duties. This is particularly true of the most valuable spectrum in the UHF band.

19. In the broadcasting sector, there are a number of steps policymakers and industry could take in order to free-up more valuable UHF spectrum. Spectrum sharing on a geographic basis is already being examined and progressed by Ofcom. But technological developments can provide further efficiencies, be they existing standards used to some extent within DTT such as DVB-T2 MPEG 4, or new delivery mechanisms such as eMBMS that can efficiently deliver content on mobile networks. Similarly, more innovative approaches to network planning such as Single Frequency Networks could be explored as another way of increasing the amount of spectrum available for other purposes. Ofcom should also look to fulfil its duties by incentivising greater efficiency via the prices it sets for DTT spectrum – we note that the current proposals of cost recovery patently do not achieve this.

20. The failure to take these steps risks a detrimental impact on the competitiveness of the UK. For example, adopting more efficient transmission standards would effectively remove the need for the two interim HD multiplexes Ofcom has licensed, and at the same time potentially reduce the costs of DTT SD capacity significantly. Instead, a regulator-led process has seriously disadvantaged the UK in as much as it has increased the amount of bandwidth for DTT without imposing any efficiency savings on existing users – all at a time when international competitors such as the US and Germany are looking at reducing the amount of bandwidth used for DTT.

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[5] See report summary available at http://www.telecoms.com/202191/uk-spectrum-crunch-likely-to-lead-to-contentious-solutions/?utm_source=rss