



Vodafone Response to Ofcom Consultation:

“Spectrum Roadmap: Delivering Ofcom’s Spectrum Management Strategy”



Response

Vodafone welcomes the opportunity to comment on Ofcom's Spectrum Roadmap. This response should be read in conjunction with our response to Ofcom's review of mobile spectrum demand¹.

We agree with the work programmes set out in the discussion paper, albeit we have some concerns around the ability of stakeholders to meaningfully engage with Ofcom and respond to any associated Information Requests, given the competing demands on resources which are being stretched to meet Government and Ofcom policy goals such as Telecoms Security Requirements, High Risk Vendor removal, supply chain diversification, the Shared Rural Network, 5G rollout and implementation of the European Electronic Communications Code. Whilst we believe that all of the initiatives in the Spectrum Roadmap are worthy of consideration, it does at times feel like Ofcom is able to resource research that as commercial organisations we are unable to dedicate time to.

Vodafone's priorities for Ofcom with respect to spectrum, which we do not believe will differ from other mobile network operators, are:

1. A review of whether the market mechanisms applied to spectrum, in particular the levying of Annual Licence Fees (ALFs) on mobile spectrum, are achieving the policy objective of incentivising efficient use of spectrum. We believe:
 - a. Far from incentivising spectrum trades, ALFs set at market value impede efficient trading of spectrum, and
 - b. That an obligation to commit spend in order to hold spectrum licences need not equate to that spend being taken out of industry. Mobile consumers are paying more than £300M/yr in spectrum fees to Government, and we believe that at least some of the ALF obligation should be repurposed as a requirement for mobile network operators to invest to improve the coverage and quality of mobile services.
2. A review of spectrum licences to ensure that terms are technology neutral. We welcome Ofcom's consideration of varying our 900MHz and 2100MHz licences to formalise that usage to support 5G services is permitted.
3. The provision of mid-band spectrum – the upper 6GHz band – for mobile services. Absent this, in the medium term, mobile networks will go into congestion. Mm-wave does not present an economically viable substitute for this requirement.
4. A review of future usage of sub-1GHz spectrum by Digital Terrestrial Television (DTT), taking into account changing viewing habits. This may lead to repurposing of spectrum for mobile usage, but the outcome should be driven by the evidence.

¹ https://www.ofcom.org.uk/data/assets/pdf_file/0021/237720/Vodafone.pdf



5. Release of mm-wave spectrum at a price that is reflective of the challenging deployment economics.

In reviewing the roadmap, we would make two observations on the overall approach taken by Ofcom:

- Ofcom's goal should be to ensure that spectrum is used in the most efficient manner. However, we are concerned that at times spectrum efficiency is conflated with securing the most intensive usage of spectrum. The two are not the same. Spectrum efficiency means achieving the most value (economic and social) from UK spectrum assets – that does not mean ensuring that every Hz of spectrum is intensively used, if an incremental user detracts more value from existing usage than they add with their own.
- We are concerned that at times Ofcom's analysis focusses on technical matters, and becomes detached from investment realities. As an example, the analysis of mobile spectrum demand suggested that mobile operators can somehow deploy tens of thousands of small cells to make usage of mm-wave spectrum. However, this coincided with intense pressure to consider the cost-of-living crisis when reviewing consumer pricing. In an environment of challenging investment returns, the only way that wide-scale network densification could be achieved is via large hikes to consumer pricing, yet this consideration was absent from the spectrum analysis.

Taking these aspects together, we note that the concept of multiservice networks is predicated on there being economies of scope in serving multiple applications from one network. If applications are instead given dedicated spectrum, this reduces the multiservice network scope economies, and hence the ability to provide services with a weaker commercial case that may be desired from a policy perspective (for example expanding rural coverage). We therefore suggest that Ofcom's analysis should focus not just on the technical aspects of the topic in question, but instead also consider the effect on investment incentives. This analysis should consider ramifications not just for the narrow set of stakeholders, but more widely.

Turning to the detail of the roadmap, beyond the priority items that we have set out above, we make the following observations:

- On the space spectrum strategy, we are supportive of the protection of applications such as earth observation. We support the provision of further spectrum for NGSO usage, but note that in 14GHz band, the very limited number of fixed links that are active support safety-of-life applications, so careful consideration must be given to any revocation of licences. As an aside, we note that the Vodafone collaboration with AST referenced in para 4.22 of the roadmap would largely make usage of existing mobile spectrum bands for communications to user terminals – as such the policy adjustments we would need would largely be to allow non-terrestrial usage of our licensed spectrum.
- We note Ofcom's work with BEIS on spectrum access for utilities, and will continue to assist where required. It is important that this work concentrates on the areas where current multiservice networks (whether fixed or mobile) cannot meet utility needs, in order to carefully assess whether



the best approach is to build a parallel bespoke network, or instead to augment existing multiservice network capabilities to meet the needs of utility users.

- We note the entry “understanding industry demand for spectrum”, and question whether this betrays an incorrect way of looking at things. We don’t believe that industry has a demand for spectrum, rather it has a demand for applications, which may consume spectrum, either directly (dedicated network) or indirectly (usage of a multiservice network, for example via a 5G slice). As such, Ofcom’s focus should not be on promoting a particular type of spectrum licensing, but instead in ensuring that the most efficient usage of spectrum is made in meeting the industrial application.
- We welcome Ofcom’s analysis of how best to meet the growing demand for drones and will continue to work with you on this aspect. We note that the consultation was due in April, but doesn’t yet appear to have been published.

We look forward to working with Ofcom to implement the spectrum roadmap.

Vodafone UK
May 2022