



Enabling satellite direct to device services in mobile spectrum bands



1. Introduction

Vodafone welcomes the opportunity to comment on Ofcom's proposals for enablement of satellite Direct-to-Device (D2D) services in the UK. Via Vodafone's wider investment in AST Spacemobile, we are committed to bringing the benefits of this transformational technology to customers across our global markets. We are grateful for Ofcom's support earlier this year in enabling Vodafone to make the world's first space video call from an area of no coverage using a standard mobile phone¹. This demonstration was in a valley in Wales that had no terrestrial mobile coverage, showing the benefits that D2D could provide. However, the benefits of D2D go wider than simply augmenting terrestrial coverage, providing a safety net for when there are outages in the terrestrial grid.

We are therefore supportive of establishing a regulatory framework to enable D2D services at the earliest opportunity. However, this framework should also protect existing users of spectrum, by ensuring that D2D services don't overstep the mark by interfering with current spectrum usage. As set out in this response, we are comfortable that Ofcom has struck the right balance in the consultation proposals.

2. Answers to Questions

Q1. Do you agree with our assessment of the business models that could potentially emerge?

a. Are there other D2D business models that you think could deliver benefits for people and businesses in the UK?

b. Are there any business models that could not operate under our proposed approaches?

We agree with Ofcom's assessment of the business models. The common thread is that a D2D satellite operator cannot realistically provide service independent of a terrestrial network without interference being caused. However, once that coexistence arrangement is agreed, there are diverse commercial options of whether the D2D service is provided by the terrestrial mobile provider (using a D2D provider as subcontractor), or alternatively that the D2D provider sells their services directly. Vodafone's intended service proposition in partnership with AST Spacemobile very much follows the former model, but the latter should not be precluded. We believe that Ofcom's proposals facilitate either approach.

We note that under the latter model, the D2D provider would be responsible for compliance with the full suite of regulatory General Conditions laid out by Ofcom (and, in turn, would need to develop an ongoing relationship with Ofcom as exists for existing UK communications providers).

¹ <https://www.vodafone.com/news/technology/vodafone-makes-historic-satellite-video-call-from-a-smartphone>

Q2: Do you agree with our assessment of the benefits that could be realised through authorisation of D2D services? Are there any other benefits for UK citizens and businesses that could be realised?

We believe that Ofcom has captured the main benefits of D2D. For the UK market, D2D very much provides a supplement to terrestrial networks, rather than being a substitute for them. We foresee D2D closing gaps in terrestrial network coverage, whether ongoing (rural areas beyond the scope of the Shared Rural Network) or temporary (mast outages, augmenting coverage to service demand peaks). The benefits of this go beyond a narrow analysis of there being coverage in specific areas, to a mindset that outdoor coverage will be truly ubiquitous and continuous. We note, for example, that the push for spectrum to build dedicated utility networks is in large part motivated by concerns about the geographic coverage and resilience of public mobile networks.

There is also scope for planned service provision beyond the UK landmass into surrounding coastal and territorial waters. Whereas terrestrial coverage in these waters is coincidental to the target of servicing the UK and mass, with D2D services such coverage can be planned.

Q3: Do you have any comments on how emerging D2D technology should support 999 service provision?

We agree that providing access to 999 services is an essential part of providing voice services in the UK.

✂

Q5. Are there any mobile spectrum bands not in scope of our proposals that you think we should consider?

Q6. Does deployment in supplementary downlink spectrum (SDL) present any challenges in comparison to other bands? Is there interest in deploying in this

We believe that Ofcom has captured the relevant spectrum bands.

✂

Q6: Do you agree with our proposal to limit this authorisation to the UK mainland and territorial waters? If not, please explain why.

We believe that Ofcom is correct to take this stance in the first instance.

✂



Q7. Do you agree that our proposed technical conditions for D2D satellite emissions will protect mobile services delivered by other operators in adjacent areas and in adjacent spectrum?

Q8. Do you agree with our high-level coexistence assessment for other services in adjacent spectrum to D2D?

Q9. Are there other services co-channel, or in adjacent spectrum, that you think we should take into account when assessing coexistence? If so, please provide evidence of the nature of interference and what level of protection you consider is necessary.

We are comfortable that the proposed technical conditions strike the right balance between protecting mobile services/adjacent users and not being unduly onerous so as to stifle the D2D market.

✂

Q10. Do you agree with our preferred authorisation approach (option 2)? If not, please set out your reasoning.

Q11: Are there any alternative authorisation options, not discussed here, that you believe are worth considering?

We fully support Ofcom's preferred authorisation approach, i.e. Option 2.

✂

Q12. Overall, do you agree with the proposed conditions set out in this section?

We agree with the proposed conditions set out in the consultation.

Vodafone UK

May 2025