

## **Improving mobile coverage**

Delivering better mobile through the way we manage  
the airwaves

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# Overview

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- 1.1 Access to reliable mobile services has become essential to how people live and work across the UK.
- 1.2 As people increasingly use apps and websites to watch video, listen to music and communicate on the move, the amount of mobile data we use has increased around tenfold over the past five years.<sup>1</sup>
- 1.3 Mobile phone networks must keep pace with the needs of people and businesses, providing them with both the network capacity and coverage they need.
- 1.4 This is a priority for Ofcom. Our main duty is to further the interests of citizens and consumers in the UK, and we have a specific duty to secure widespread availability of communications services. Our ambition is to achieve comprehensive mobile coverage for people right across the UK. We want to see good quality mobile coverage,<sup>2</sup> from a choice of mobile network operators, wherever people live, work and travel.
- 1.5 Ofcom, governments and mobile companies have important roles to play in delivering this goal. We have already introduced new rules that allow people to use special equipment to boost their mobile signal at home. We have also supported the Government in making changes to the law which make it easier and cheaper for mobile companies to build masts and install equipment.
- 1.6 Ofcom manages the UK's spectrum – the airwaves used by mobile networks. Today we have published further steps on how we propose to improve mobile coverage and pave the way for companies to innovate and take advantage of new wireless technologies – including 5G, the next generation of mobile technology.

## Getting coverage to rural communities

- 1.7 We are setting out updated plans to auction more spectrum in two frequency 'bands'. This will help to improve the capacity of existing mobile services, and support 5G mobile technologies in the next few years. In our Digital Communications Review in 2016 we committed to look at ways to improve mobile coverage through this auction, and we have been consulting on how to do so.
- 1.8 Through the auction, we can help many rural communities to get the same quality of mobile coverage that people expect in the UK's towns and cities.

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<sup>1</sup> Ofcom Communications Market 2018 interactive report: <https://www.ofcom.org.uk/research-and-data/multi-sector-research/cmr/cmr-2018/interactive>.

<sup>2</sup> We define good coverage as a signal strength at which nearly all 90-second telephone calls are very likely to complete without interruption; and nearly all 4G connections will deliver a connection speed of at least 2 Mbit/s. This is fast enough to browse the internet and watch glitch-free mobile video.

- 1.9 The four mobile network operators – BT/EE, O2, Three and Vodafone – continue to improve availability; but we are still some way off comprehensive coverage across the UK. In our Connected Nations 2018 report, published today, we report that 66% of the UK’s landmass has good quality 4G coverage from all four operators, while 9% lacks good quality 4G coverage from any operator.
- 1.10 As mobile networks expand, extending coverage increasingly means building mobile masts in more remote parts of the UK, including areas where the natural landscape can make this difficult. Building transmitters in these remote areas can often be expensive and commercially unviable for mobile companies.
- 1.11 So to ensure more people in rural areas get reliable mobile services, we are offering companies bidding in the auction a discount on some spectrum, in return for a binding commitment to substantially improve coverage.
- 1.12 We have proposed to include in our auction two coverage obligations, which would require two mobile operators to extend good quality 4G coverage to at least 90% of the UK’s geography.
- 1.13 To ensure these improvements are targeted at the areas where they will make the most impact, we propose that in meeting these targets each operator must:
- deliver good outdoor coverage to at least 140,000 additional premises. This will ensure operators focus on improving coverage in rural communities rather than uninhabited areas;
  - build at least 500 new transmitters. This will ensure operators transform coverage in areas where it is lacking, rather than meeting the rules by boosting existing signals; and
  - also meet targets to secure good coverage for a certain proportion of the landmass in each of Scotland, Wales, Northern Ireland and England.
- 1.14 These obligations would improve the quality of mobile coverage provided by two operators in areas where hundreds of thousands of people live and work, as well as providing good coverage to several thousand more Kilometres of the UK’s road network and increasing the geographic reach of those two networks across the UK. As a condition of these licences, the coverage obligations must be met within four years of the auction.

### **Sharing spectrum to support innovation and improve connectivity**

- 1.15 Today we are also publishing plans to allow some spectrum bands to be shared by different users, to help improve coverage in poorly served areas and create opportunities for innovation across the UK economy.
- 1.16 Some of these spectrum bands could support a growing range of uses in the future, in areas as diverse as logistics, mining, agriculture and connected devices that will form the ‘Internet of Things’.
- 1.17 Other bands could be used by organisations and groups who are interested in building and operating their own mobile networks. An organisation could set up a private network,

providing coverage within a limited area. Or it could agree with mobile operators to allow their customers to roam on to its network, effectively extending their coverage.

- 1.18 We also propose to allow others to use spectrum that is currently licensed to mobile network operators, but not being used by them. This could be particularly suitable for schemes by local communities or companies to provide good mobile coverage in areas where it is currently lacking. We cannot yet assess the demand for spectrum to support these kind of schemes; but they could make an important difference for people in the local communities where they are based.
- 1.19 The spectrum bands we are proposing to open up for sharing could also be used to deliver fixed wireless broadband, rather than mobile coverage. Fixed wireless means a broadband connection that uses the airwaves to carry data from a transmitter to a home or business, rather than using copper or fibre cables all the way to the building. This could be an important technological solution to connect homes and businesses in areas where it is particularly challenging to lay cables in the ground. We estimate that 39,000 homes and businesses in the UK do not currently have access to either decent fixed broadband or good mobile coverage.

#### **Further options for improving mobile coverage**

- 1.20 The coverage obligations we have proposed will deliver important improvements, but they are not the whole solution to boosting mobile coverage.
- 1.21 In September, Ofcom published advice to the UK Government on some further options, beyond our new coverage requirements. We identified four main levers: planning reform and other measures to reduce the cost of building and operating mobile masts, which UK and devolved governments might take; agreements between operators to share their mobile infrastructure; roaming arrangements in rural areas; or a public subsidy to pay for new coverage. These options could be used in combination with each other.
- 1.22 Some are for the governments to consider, while others could be implemented by mobile operators on a commercial basis. For example, operators could allow their customers to roam on to each other's networks. This would address 'partial not-spots' – areas where there is coverage from some, but not all, operators.
- 1.23 We have proposed in our consultation that mobile operators would be able to meet our coverage requirements in part by striking roaming agreements with each other, or with third parties. This would increase the incentives for them to co-operate.
- 1.24 We are also exploring how far new technologies can help to improve mobile coverage in rural areas. We will work with the governments and industry to explore how new innovations, including 5G, could provide coverage in areas that are harder to reach. We will publish further details in our Annual Plan statement in spring 2019.