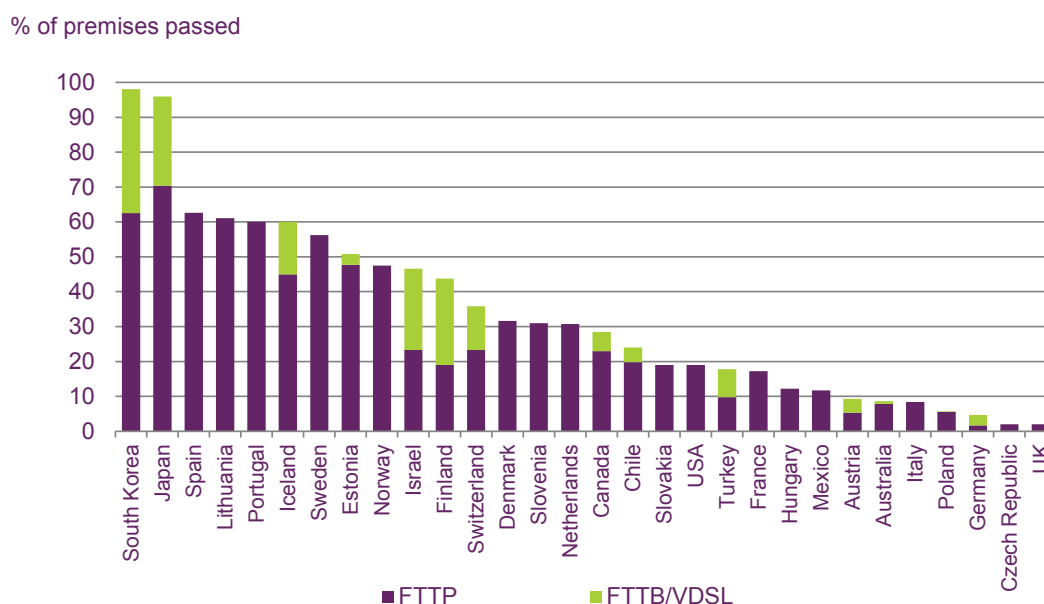


# Progress update: supporting investment in ultrafast broadband networks

## Strategy focussed on network investment and competition

- 1.1 In February 2016, we published our Strategic Review of Digital Communications. While the availability and affordability of digital communications services have improved dramatically over the last decade, demand is increasing at such a rate that greater investment will be needed to meet future consumer demands for better quality of service and the latest ultrafast broadband technologies.
- 1.2 We set out a ten-year vision for ensuring the quality and availability of communications services in the UK. This vision includes the UK moving towards a future with widespread availability of competing networks, and the UK being a world leader in the availability and capability of its digital networks.
- 1.3 One of our key proposals is to make a strategic shift to encourage the large-scale deployment of new ultrafast networks, including fibre direct to homes and businesses, as an alternative to the copper-based technologies currently planned by BT. While, overall, the UK is performing well against European and global peers on a number of measures, including the availability and take-up of superfast broadband, the UK is notable for its very limited availability of ultrafast broadband services, including those based on fibre-to-the-premise. On this metric, it compares poorly with the majority of our global peers, as shown in Figure 1.

**Figure 1: Fibre coverage to premises in OECD nations, end-2015**



Source: Analysys Mason, September 2015. Note: Analysys Mason figures are based on actuals for 1H 2015 and forecasts for 2H 2015. FTTB/VDSL is fibre-to-the-building where in-building distribution is via VDSL (very high bit rate digital subscriber line) over copper connections.

- 1.4 Network competition is the most effective spur for continued investment in high quality, fibre networks. An analysis of network deployment across a number of different countries indicates that the scale of fibre-to-the-premise coverage tends to correlate with the level of network competition, as reflected by the extent of cable network coverage.<sup>1</sup> As people and businesses enjoy greater choice of services resulting from new network deployment, competition will drive both innovation and affordable prices, while also reducing the UK's reliance on the Openreach network.
- 1.5 We want to make it easier for telecoms providers to invest in advanced, competing infrastructure by improving duct and pole access (DPA); access to Openreach's network of telegraph poles and underground tunnels that carry telecoms cables. Competitors will then be able to connect their own fibre optic cables directly to homes and businesses at lower up-front cost. This requires substantial improvement in how Openreach opens access to its infrastructure.
- 1.6 While we have a preference for network competition, given the above benefits, we recognise that this will not be possible across the entire country. Competition between networks is most likely to be realised in the denser, urban areas where the cost of roll-out per home or business may be lower. In areas where network competition is not viable, most consumers and businesses will continue to depend on service providers who purchase access to the Openreach network. Therefore, a key element of our strategy is to ensure that Openreach must meet the needs for choice, investment and quality of competing service providers, consumers and businesses, whether or not there is local network competition. Today we set out our proposals for reforming the relationship between Openreach and BT Group, to give Openreach greater independence, and ensure it serves all of its customers equally.<sup>2</sup>

## **Actions to improve duct and pole access**

- 1.7 There has been an obligation on BT since 2010 to provide a form of DPA to allow other providers to deploy fibre in the local access network. This includes a reference offer from Openreach, outlining product characteristics, processes for using the product, and pricing.
- 1.8 However, there has been limited take-up of DPA to date in the UK. The DPA regulatory remedy imposed in 2010 was designed to facilitate telecoms providers wishing to offer services in advance of BT roll-out, particularly in locations which were eligible for public funding support.<sup>3</sup> For the first phase of public contracts, while there was potential interest from competing providers to BT, this subsequently failed to materialise.<sup>4</sup> Following 2010, the focus was on the provision of superfast broadband delivered over BT's fibre-to-the-cabinet technology, as BT upgraded its local access network, rather than the deployment of new competing fibre networks.
- 1.9 More recently there has been increasing interest in network investment by others. For example, Virgin Media has unveiled a £3bn investment in its 'Project Lightning', which plans to extend its reach to a further 4 million additional premises,<sup>5</sup> and

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<sup>1</sup> Strategic Review of Digital Communications, Discussion Document, July 2015, paragraph 6.35

<sup>2</sup> <http://stakeholders.ofcom.org.uk/consultations/strengthening-openreachs-independence/>

<sup>3</sup> Review of the wholesale local access market, October 2015, paragraph 1.6

<sup>4</sup> Broadband Delivery UK developed a delivery framework to assist in the public procurement process. While the framework contract for Phase 1 was signed by suppliers BT and Fujitsu, Fujitsu later withdrew.

<sup>5</sup> <http://about.virginmedia.com/press-release/9467/virgin-media-and-liberty-global-announce-largest-investment-in-uks-internet-infrastructure-for-more-than-a-decade>

CityFibre has announced its intention to assess the feasibility of using DPA from Openreach in its deployment of network in Southend.<sup>6</sup> However, interested parties have argued that processes associated with the current DPA product are not fit for purpose for scale use, pointing to a ‘chicken and egg’ problem. Regulation can have an important role to play, providing a greater degree of certainty, and acting as a crucial driver to encourage interest and take-up. For example, regulated access has contributed to more extensive use of DPA in Portugal, Spain and France, resulting in greater fibre-to-the-premise deployment than in the UK, by both incumbents and competing providers.

1.10 Our Strategic Review of Digital Communications set out a number of actions that we intend to take to ensure that any DPA regulation is effective in enabling competing providers to build new fibre networks:<sup>7</sup>

- **Equivalence of inputs.** In order to improve Openreach’s incentives to deliver an effective DPA product, we will work to apply equivalence of inputs, requiring Openreach to provide DPA to all telecoms providers (including other parts of BT) in the same way – for example, in terms of timescales, processes and terms and conditions.
- **Usage restrictions.** The current DPA product is designed to support the provision of broadband services to residential consumers and small businesses, but not for connecting larger businesses. In deploying new networks, operators may want to consider connecting all types of different customers. Where DPA is used to deploy network to residential consumers at scale, we will look to remove this restriction.
- **Pricing.** We will review pricing as required, particularly ancillary service charges for the current DPA product, such as survey costs or costs to access information, to ensure the product can be effective.
- **Better information.** We will require Openreach to provide an online database to support any DPA provision showing the physical location and characteristics of its ducts and poles so competing operators can plan new networks with a reduced level of commercial risk.
- **Efficient operational processes.** We will work to ensure that operational processes for using DPA – such as accessing information, conducting surveys, accessing infrastructure and removing blockages – are efficient, appropriately streamlined and established early. The systems which support these processes (e.g. ordering, reserving and billing systems) will also need to be capable of facilitating large-scale deployment using DPA to towns and cities.

## Implementing our strategy

1.11 The initial conclusions to our Strategic Review of Digital Communications set out our approach to regulating communications markets for the next decade. In so doing, we recognise that there are a number of steps to be taken in order to realise the benefits of new network investment and increased choice of broadband services.

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<sup>6</sup> For example, <http://www.telegraph.co.uk/business/2016/05/01/bt-to-let-rival-use-its-ducts-and-poles-in-bid-to-boost-competit/>

<sup>7</sup> Initial Conclusions from the Strategic Review of Digital Communications, February 2016, paragraph 4.30

- 1.12 For example, for duct and pole access, we first need to consider the appropriate regulatory framework that should be in place; telecoms providers need to undertake business and network design planning to identify where best to roll-out new networks; civil work is required to build the new ultrafast networks; and systems need to be installed and tested prior to the commercial launch of new broadband services. Some of these steps, such as the civil engineering work which involves digging up roads and traffic management, will inevitably take some time. For example, Virgin Media's Project Lightning anticipates network roll-out to an additional 4 million premises over a five year period.
- 1.13 In the meantime, a number of telecoms providers are continuing with the roll-out of ultrafast networks. In addition to Virgin Media, in York the CityFibre / TalkTalk / Sky joint venture, under the Ultra Fibre Optic brand, continues to progress; in the Hull region, KCOM has brought its Lightstream fibre-to-the-premise offering to an increasing number of areas; and smaller providers such as Hyperoptic and Gigaclear continue to provide ultrafast services on a localised basis.
- 1.14 Since our publication in February, we have started to take forward the above actions, in particular engaging with Openreach and industry on the practical aspects of ensuring better information and efficient operational processes to enable third parties to plan and assess the potential to use Openreach's ducts and poles in the deployment of large-scale ultrafast networks.
- **Better information.** Telecoms providers need to know the physical location and characteristics of Openreach's ducts and poles to assess how to plan their networks. Under the current DPA remedy, Openreach responds to requests from other telecoms providers by emailing individual picture files of specific geographic areas from its mapping database. This is insufficient for large-scale use. When using DPA, our aim is for BT and other telecoms providers to be able to access information about the location and state of Openreach's ducts and poles in the same way. Openreach has agreed that it needs to provide a comprehensive map of its ducts and poles so that other telecoms providers can read this information more easily.<sup>8</sup> It has recently demonstrated how this database tool would work, and we would expect it to be available to other telecoms providers in 2017. While we welcome this as a good first step, we recognise that more needs to be done to ensure that the underlying information database has more detailed and accurate information (e.g. in terms of spare duct capacity), and is updated promptly and efficiently following field surveys.
  - **Efficient operational processes.** Openreach's existing DPA product enables other telecoms providers to survey ducts and poles and to build ultrafast broadband networks where there is available capacity. However, there are a number of limitations with the current approach. For example, if a rival telecoms provider encounters a blockage while deploying fibre in an Openreach duct, it must stop work and wait for Openreach's contractors to clear that blockage, before it can resume work. This can result in delays and inefficiency. In contrast, when Openreach itself deploys fibre in its ducts (potentially using the same engineering contractors) it is able to deploy fibre and remove blockages at the same time. Openreach has acknowledged the need to examine these processes. It has begun trialling new, simplified duct and pole sharing processes with five telecoms providers which allow these other providers to carry out more work on

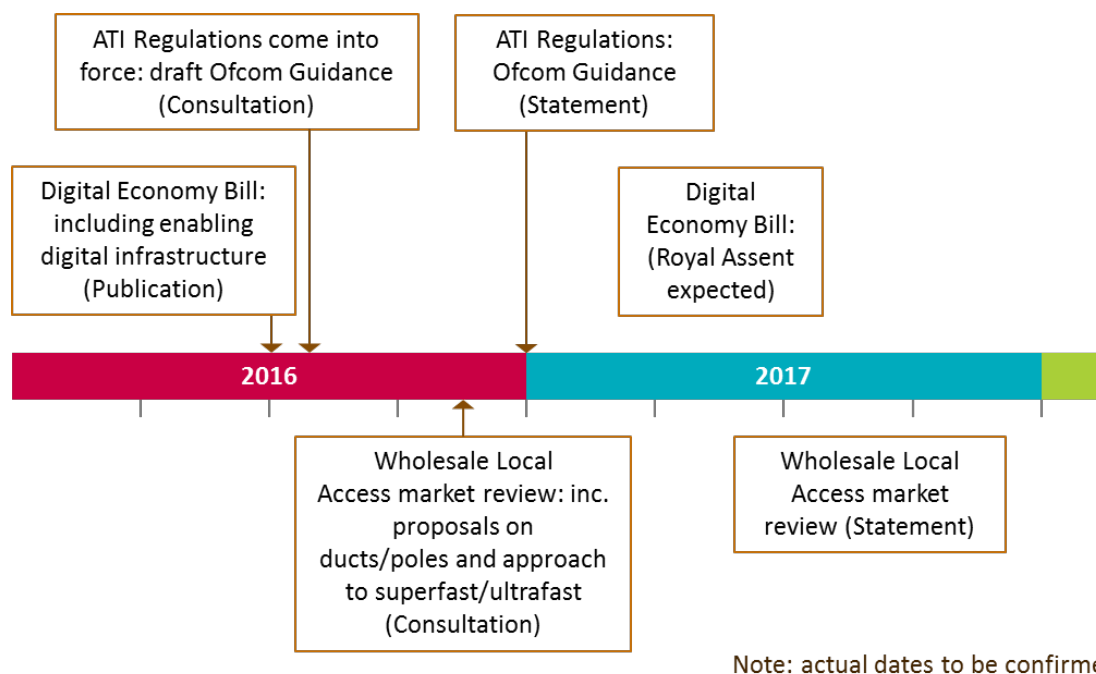
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<sup>8</sup> For example, <http://www.telegraph.co.uk/business/2016/06/15/openreach-boss-clive-selley-defends-broadband-roll-out/>

their own, more quickly and efficiently, such as clearing blockages themselves during the build phase.<sup>9</sup>

- 1.15 Looking forward, there are a number of key milestones over the next 18 months in the implementation of our DPA strategy, as set out in Figure 2.

**Figure 2: Key milestones for DPA implementation over the next 18 months**



- 1.16 The milestones reflect the different ways in which the actions set out in our Strategic Review of Digital Communications will be implemented. Broadly, they fall into three categories:

- **Telecoms market reviews.** The existing DPA obligation was imposed on BT following a review of the **Wholesale Local Access (WLA)** market. We have now begun a new review of that market, including this obligation. We will consider how to ensure that any obligations on BT to provide access to DPA in this market are effective, reflecting our consideration of each of the actions set out above. We will set out any proposals for DPA as part of our WLA market review consultation this autumn. The consultation will also put forward our approach to regulated access and pricing of Openreach’s superfast and ultrafast services, which is an important factor in the decision to invest in building competing ultrafast networks or to rent services from Openreach. We then expect to finalise the conclusions from our WLA market review during the course of 2017.
- **Access to infrastructure Regulations.** In parallel to any regulatory obligations imposed on BT following our market reviews, further rights will soon be available to telecoms providers to gain access to physical infrastructure through the Communications (Access to Infrastructure) Regulations 2016<sup>10</sup> (the ATI Regulations). These measures are designed to reduce the cost of deploying

<sup>9</sup> <http://www.btplc.com/news/index.htm#/pressreleases/openreach-trials-new-duct-and-pole-sharing-process-1467957>

<sup>10</sup> 2016 No. 700 Electronic Communications, The Communications (Access to Infrastructure) Regulations 2016

broadband networks by facilitating access to physical infrastructure across different sectors, not only telecoms infrastructure. Today we are setting out guidance on our role in these new measures and so have included a more detailed section on the ATI Regulations below.

- **Planning reform.** An important aspect of deploying broadband networks is the need to secure appropriate planning permissions, such as for putting up telegraph poles, or gaining permission from the owner of a building to lay cabling (e.g. in an apartment block). The Government's **Digital Economy Bill**<sup>11</sup>, published on 5 July, has a number of measures to support the ambition for the UK to be a world leader in the digital economy. One of the main elements of the bill is enabling digital infrastructure, through a reformed Electronic Communications Code to cut the cost and simplify the building of mobile and superfast broadband infrastructure; new and simpler planning rules for building broadband infrastructure; and new measures to manage radio spectrum to increase the capacity of mobile. Royal Assent is expected in spring 2017.

## Access to Infrastructure Regulations

- 1.17 The ATI Regulations set out measures intended to reduce the cost of deploying high-speed electronic communications networks and implement the Broadband Cost Reduction Directive 2014.<sup>12</sup> These measures include sharing physical infrastructure of telecoms network providers as well as network providers in other sectors including gas, electricity, water and sewage and drainage systems, heating and transport services. They create a number of rights for access seekers in relation to physical infrastructure and civil works. In summary these are rights to:
- access information concerning physical infrastructure;
  - conduct surveys of physical infrastructure;
  - access physical infrastructure;
  - access in-building physical infrastructure;
  - access information concerning civil works; and
  - co-ordinate civil works where these are financed by public means.
- 1.18 The ATI Regulations create a dispute resolution process for situations where those rights fail to be realised through commercial agreement, and give Ofcom the responsibility to resolve any disputes. We have proposed guidance, for consultation, on how to refer disputes to us under the ATI Regulations, and to provide information on the issues we would be likely to take into account.<sup>13</sup>
- 1.19 The ATI Regulations put in place a new regime which is distinct from the market review framework (which is the basis for BT's existing DPA obligations). The market review framework provides for specific ex-ante conditions to be imposed on a telecoms provider with significant market power (in the case of the WLA market, an

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<sup>11</sup> <https://www.gov.uk/government/collections/digital-economy-bill-2016>

<sup>12</sup> Directive 2014/61/EU of the European Parliament and of the Council of 15 May 2014 on measures to reduce the cost of deploying high-speed electronic communications networks (those capable of delivering access to broadband services at speeds of at least 30 Mbit/s)

<sup>13</sup> <http://stakeholders.ofcom.org.uk/consultations/ATI-dispute-guidance/>

obligation on BT to provide a DPA product with specific requirements around terms and conditions such as price). In contrast, the ATI Regulations create a series of rights and corresponding obligations which provide a basis for commercial negotiations. Should a network provider seeking access and the physical infrastructure owner fail to agree, the ATI Regulations provide a dispute resolution regime to resolve disagreements.

- 1.20 These regulatory regimes will co-exist and we expect both of them to play a complementary role in helping to deliver our strategy. To date, interest has been greatest in using Openreach's ducts and poles, rather than non-telecoms infrastructure, and so our focus will be to review the existing DPA product available from BT as part of our WLA market review. However, interest may change, and to the extent that an increasing appetite to use non-telecoms infrastructure for rolling out high-speed broadband networks emerges, the ATI Regulations will have an increasingly important role to play.