

# Openreach section of BT Group plc Annual Report & Form 20-F

# 2018

This is the Openreach section of the BT Annual Report for the year ending 31 March 2018 published on 24 May 2018. The full report is available from the BT website.

# Our customer-facing units

## Openreach

We're Britain's digital network business – connecting homes and businesses large and small. We want to build the best possible network with the highest quality service, and make sure everyone in Britain is connected.

### Markets and customers

Serving our customers

600

Communications Providers use our network

### Products and services

High-speed broadband

1Gbps

Download speed possible with FTTP

### Strategic performance

Ultrafast speeds

3m

With FTTP by the end of 2020

### Operating performance

Superfast coverage

27.5m

Premises can get superfast broadband

### Financial performance

Revenue flat but strong demand for our fibre products

£5.1bn    £2.5bn    £1.2bn

Revenue  
2018

EBITDA  
2018

Operating profit  
2018





## Another hugely eventful year at Openreach

It's been a busy twelve months. We've been simultaneously laying the foundations for Britain's ultrafast future; setting more ambitious targets for rolling out fibre-to-the-premises; and investing in a better and broader network.

And we've made big strides towards becoming the distinct, legally separate company within BT Group that we committed to after Ofcom's Digital Communications Review (DCR) in 2017.

### Decent broadband for everyone

This year we continued to grow our superfast broadband network. Today it delivers speeds of at least 24Mbps to more than 27.5 million premises. We were proud to do the heavy lifting on the Government's commitment to make superfast available to 95% of UK homes and businesses by the end of 2017.

This is no mean feat. Few countries around the world can point to such a widespread superfast footprint. But everyone in Britain should be able to get decent broadband speeds and we're still a few per cent short of good enough.

We won't stop until we close the gap. And we fully support the Government's plan to deliver a Universal Service Obligation that will give everyone the right to request 10Mbps broadband as a minimum by 2020.

### Delivering an ultrafast future

Having achieved such widespread access to superfast broadband, it's right that we shift our focus to the next generation of ultrafast (100Mbps+) infrastructure.

Let me be clear – we believe in an FTTP future. In fact I think it's essential to the UK's productivity and prosperity that we build a future-proofed digital network that will serve our people and businesses for decades to come.

This year we've made big progress – honing our skills, tools and techniques, taking our overall ultrafast footprint to more than 1.5m homes and businesses. Having consulted our communications provider customers during the summer, we now have an accelerated plan to make FTTP connections available to three million homes and businesses by the end of 2020. But we want to go a lot further – to 10 million premises and ultimately most of the UK. So we now have a 'Fibre First' approach to every network expansion decision we make.

We've begun work in eight major cities and I firmly believe that with the right conditions we can reach 10 million premises by the mid-2020s and the majority of the UK thereafter.

We've also continued to innovate with Gfast technology. It will play an important role getting ultrafast speeds to people quickly and cost effectively.

### Investing in our people

Improving the service we deliver will always be our top priority. I'm encouraged by the persistent progress we've made this year in cutting the number of faults, keeping missed appointments to a minimum and fixing the faults we find much faster.

We've kept investing heavily in our people, training and systems, and we hired 2,392 extra engineers to maintain our network and connect our customers throughout Britain. We'll hire a further 3,000 this coming year in support of our 'Fibre First' plans. And we've introduced a lot of new training and career opportunities to help us develop and keep hold of the very best engineering talent.

### A bright independent future

Openreach is a very different business from this time last year. We're now a separate company, Openreach Limited, wholly owned by BT, with our own board responsible for setting strategy and overseeing performance.

We're tracking well against all of the commitments BT made as a result of the DCR and we're ahead on many, including our governance and rebrand.

I hope by now you'll have spotted one of our new vans, or our people sporting the new Openreach identity – more and more are appearing every week. But the changes go far deeper than that.

We're developing stronger relationships with our customers through our confidential consultations, and we're forging closer ties with the industry, regulators and government for the good of the UK. We know there's a lot more to do and we're excited to be driving Britain's digital revolution.

**Mike McTighe**  
Chairman  
9 May 2018

## Our customer-facing units continued Openreach continued

We build the network that connects Britain's homes and businesses to the future.

We're responsible for providing services over the local access network (sometimes called 'the last mile'), and installing and maintaining the fibre and copper communications networks that connect homes and businesses.

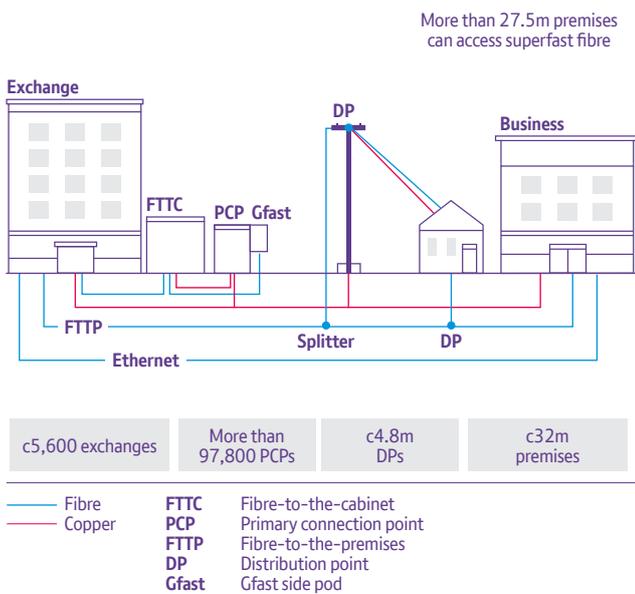
Communications providers (CPs) access our network on equivalent terms. That means they all get the same products, prices and levels of service. They use our network to deliver services ranging from home phone, broadband and TV to high-speed data connections for businesses of all sizes.

### Delivering a more independent Openreach

Openreach has now been incorporated (Openreach Ltd). This follows the long-term regulatory agreement between BT and Ofcom under the Digital Communications Review (DCR). When all DCR preconditions have been met, Openreach will operate as a distinct, legally separate company within BT Group.

We now have more control of our strategy, investments and plans within a strategic and financial framework defined by BT, making it more autonomous, transparent, and accountable to customers and stakeholders alike.

### Openreach local access network



Greater independence also strengthens our ability to work more closely with all our customers. These stronger partnerships will deliver a future communications infrastructure that will remain the foundation of the UK's vibrant internet economy.

The DCR agreement with Ofcom is based on voluntary commitments from BT. Once they're fully implemented, it means:

- Openreach becoming a distinct company
- a new Openreach board with an independent chair and majority of independent directors setting the direction and overseeing the company
- executives being accountable to the new Openreach board
- Openreach having control over strategy and budget allocation within an overall framework set by BT
- Openreach consulting widely with communication providers to inform its network investments, including through a new confidential consultation phase
- distinct Openreach branding.

Over the past 12 months, we've already taken big steps to meet the commitments quickly and work in a new way. They include establishing the Openreach board, consulting with customers on FTTP investment and launching a new, distinct brand. In fact we've delivered many of the commitments ahead of the original schedule agreed with the regulator.

### Markets and customers

The UK has the highest share of GDP generated by the digital economy of any country in the G20. It also has higher superfast availability and take-up than any major European peer. We're playing our part in this success story by building and running the largest superfast network in the country.

At the end of December 2017 there were 26m connected broadband lines in the UK. 80% of these – excluding Hull – use Openreach's network. (The rest are mainly on Virgin Media's cable network.)

### Total UK broadband market As at 31 March



<sup>a</sup> As at December 2017.

### Quality checking FTTP build at a new housing development



Our customers are the communication providers (CPs) who provide communications services to homes and business across the UK. We also work closely with property developers building new properties to deliver our network to 'new sites'.

There are 600 CPs using our network. They operate in three markets:

- **Consumer** – made up of households using fixed-line broadband and home phone services. Our largest customers include BT Consumer, Sky and TalkTalk.
- **Business** – consisting of the 5.5m businesses in the UK. Most of our customers serve business clients.
- **Infrastructure** – including firms building network infrastructure to data centres and mobile cell sites, and property developers building new developments.

Recent market trends include:

- strong and growing demand for superfast fibre as consumers' lives become more data-hungry
- major investment in CPs' backhaul capacity – spurred by more data usage and network reach to make sure everyone gets superfast speeds
- more demand from consumers for high-capacity and reliable connectivity, and from businesses investing in cloud computing and IoT
- a dynamic mobile connectivity market which is investing in greater capacity and coverage – driving innovative solutions
- a fast-growing data centre market, creating a new need for high-capacity circuits (1Gbps or more).

### Competitors

Our main competitors also build networks. Virgin Media is the largest. Its cable network covers roughly half of UK homes, with plans to reach around 17m premises by 2019.

Other companies are building their own fibre access networks. CityFibre, Hyperoptic and Gigaclear are deploying fibre-to-the-premises across urban and rural areas, making our market more competitive.

In November 2017 CityFibre announced plans to bring FTTP to up to 5m premises by 2025, working in partnership with Vodafone.

In February 2018 TalkTalk announced it was investing in a joint venture with Infracapital to deploy FTTP to over 3m premises. Competitors in the business and infrastructure markets include Virgin Media, Colt Group and Vodafone.

Pricing, service delivery and product innovation remain competitive themes. 'Price per Gigabit' is falling because of intense competition – particularly in urban areas. New products like our OSA Filter Connect reflect the market's competitive nature and the need to innovate to best meet customers' needs.

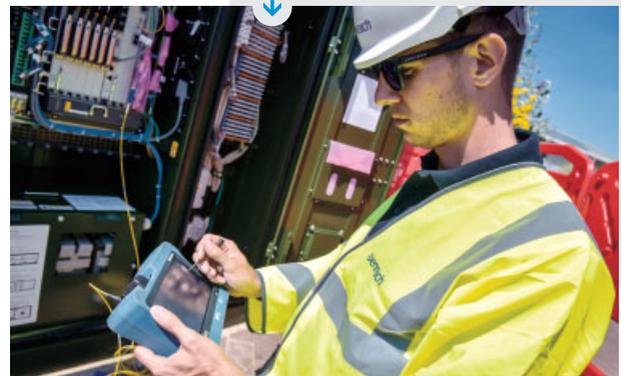
### Products and services

We provide network access and engineering services. They deliver phone, broadband and higher bandwidth data services through four main products: copper access, fibre access, Ethernet and optical, and infrastructure solutions.

#### Copper access

- **Wholesale Line Rental (WLR)** lets CPs offer phone services to their customers using our equipment and copper network. They pay for lines between our exchanges and their customers' premises.
- **Local Loop Unbundling (LLU)** provides CPs with a direct connection to the local network (or local loop). CPs can install their own equipment in, or near to, our exchanges, and use it to provide phone and broadband services to their customers.

### An Openreach engineer tests one of our fibre street cabinets



## Our customer-facing units continued

### Openreach continued

#### Fibre access

Our wholesale fibre product is called Generic Ethernet Access. We offer a few versions:

- **Fibre-to-the-cabinet (FTTC)** uses fibre from the exchange to the street cabinet, then the existing copper network for the final link to customers.
- **Gfast** uses fibre from the exchange to the street cabinet, then uses high performance equipment to generate ultrafast speeds over the existing copper network for the final link to customers.
- **Fibre-to-the-premises (FTTP)** uses fibre all the way from the exchange to the premises. We also offer speed tiers for smaller businesses needing ultrafast speeds at less cost than Ethernet.

Fibre access allows us to offer superfast broadband (24Mbps+) via FTTC and FTTP and ultrafast broadband (100Mbps+) via Gfast and FTTP.

#### Ethernet and Optical high-bandwidth services

These are high-speed fibre connections. CPs use them to build and extend their networks, providing high-quality, high-bandwidth services to businesses and the public sector.

- **Ethernet Access Direct (EAD)** offers competitive services – from 10Mbps to 10Gbps – to all UK businesses and infrastructure markets.
- **Optical Spectrum Services (OSS)** are scalable wavelength solutions offering up to 100Gbps at any distance. In 2018 we launched OSA Filter Connect to offer good value high-bandwidth pricing with lower incremental scaling costs.

Openreach engineers install high-speed fibre cables



#### Infrastructure solutions

CPs use our infrastructure solutions to build their own networks. Third parties can ask us to rearrange our network or work on their networks.

- **Flexible Co-mingling** lets CPs put their equipment in our exchanges.
- **Physical Infrastructure Access (PIA)** lets CPs use our ducts and telephone poles to roll out their own fibre networks. PIA has been available since 2011.
- **Mobile Infill Infrastructure Solution (MiiS)** lets CPs install their radio equipment in special cabinets linked to antennas on telephone poles and use their spectrum to improve mobile coverage.
- **Network rearrangements** help third parties progress their projects by moving or removing our network.

## Performance in the year – strategic

### 1 Delivering great customer experience

The table on page 113 shows how we're doing on service. It includes a few key measures called Minimum Service Levels (MSLs).

MSLs are quality of service standards for installation and repair which are set by Ofcom and increase annually. Every quarter we publish our performance data with extra levels of detail.

We recognise the MSLs represent the minimum service standard and we are set to deliver performance ahead of these. This year we have again delivered ahead of Ofcom's copper MSLs.

On-time customer provisions are now at just under 95% – meaning nearly all our customers get service when they want it, significantly ahead of Ofcom's MSL of 89%. Our average first available appointment date is well below our 12-day service level target.

An engineering visit to install broadband



Our investments in people and processes are working. They're helping us keep up our performance during tough, high-demand patches like bad winter weather. We had fewer faults this year than last year. And we invested more than £30m to boost resilience and stop network faults rising like they have in the past.

We're improving our customer service. There were 29.7% fewer missed appointments than last year (where we were responsible).

Customer satisfaction increased by 3.8% during the year, from a half-year baseline when our measures changed. And our Right First Time programme helped us to beat our targets to improve key service indicators by 3.7%.

Our service for large businesses keeps getting better. We're providing more Ethernet circuits than ever before, and cutting the backlog of jobs. On average it takes us 40 days to install an Ethernet line, and we fix 95% of Ethernet faults in five hours.

In July 2017, the Competition Appeal Tribunal ruled there were errors in Ofcom's Business Connectivity Market Review market assessment. So Ethernet MSLs were removed. Ofcom then used emergency powers to reimpose remedies on us – including MSLs – covering the period up to the end of March 2019.

We are currently outperforming four of the six temporary Ethernet MSLs. We remain concerned that the two remaining MSLs aren't operationally achievable. We're making further representations to Ofcom about this but that in no way weakens our resolve to further improve Ethernet service.

## 2

### Investing for growth

Our ambition is to deliver ultrafast speeds to homes and businesses – using FTTP and Gfast. We're committed to bringing FTTP to 3m premises by 2020.

We'll avoid building Gfast, only to rebuild later with FTTP – that would be a waste of money.

Our FTTP technology delivers ultrafast speeds of 1Gbps. It's the technology of choice for all new homes and businesses. We've proposed to industry that 10m homes and businesses could have FTTP by the mid-2020s – under the right conditions. That means cutting the cost of rolling it out, the right market demand, and government support through regulation.

Gfast delivers ultrafast speeds of 300–500Mbps on our existing copper network. It's a really important part of our ultrafast strategy and we'll deploy it to millions of UK premises.

For CP customers serving larger businesses, we launched a new managed fibre product – OSA Filter Connect – in April 2018.

Also in April 2018, Ofcom announced its decision not to impose a regulated Dark Fibre product for business connectivity during the period to March 2019.

### Investing in our people

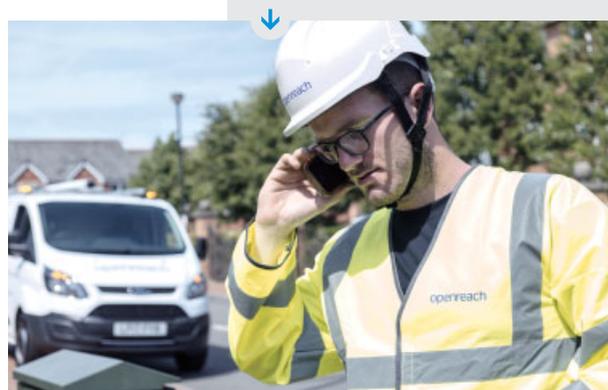
More than 30,000 people work for Openreach, including network engineers and planners who look after our access network.

To help us better meet customer demands, we've hired 2,392 new engineers this year. This boost in our people has helped us to both deliver beyond our MSLs and reduce missed appointments for a second successive year.

Nearly 300 of these new engineers are focused solely on cutting network faults – contributing this year to 104,400 fewer faults. We trained around 400 as fibre engineers – delivering ultrafast to newly-built properties and government-funded BDUK contracts.

Our people are telling us they're able to serve our customers better. Our latest people survey showed a 20% increase in pride in our service, and a 17% increase in confidence in the health of our network.

An engineer calls a customer in advance of an installation



We want our best engineers to stay in the field, developing their skills, delivering for customers and supporting others to do the same.

That's why this year, in response to engineer feedback, we've created and launched Engineering Career Pathways. Part of this is the introduction of a new Senior Engineer role – top engineers who can solve the most complex customer problems and pass on their skills and experience to their teams.

We've also modernised our training centres to include more varied and realistic training environments. This helps engineers learn the skills they need to serve customers in lots of different scenarios, in one location. We're building 12 new fibre training centres – the first of which opened in Bradford in March 2018.

## Our customer-facing units continued

### Openreach continued

Rt. Hon Philip Hammond MP  
with trainee engineer at the  
Bradford training centre



These things, and other interventions to positively influence our culture, have boosted our people's engagement levels by 17% compared with last year.

### 3 Transforming our costs

We've continued to review the way we work, simplifying our business to cut the cost of delivery while improving customer experience.

This year we:

- introduced new 'connectorised' technology to make the job of connecting up FTTP simpler. This plug-and-play approach means we can deploy more engineers to build networks and connect customers cheaper and quicker
- used innovative technologies to speed up network build. Our new mechanised diggers can dig a trench, lay fibre, then fill the trench back in automatically. And we're using drones to connect up fibre cable in hard-to-reach locations
- invested in new technology to go inside customer homes. This includes 'invisible' cable and extendable plug-ins, which cut the time spent connecting customers to fibre
- trialled the use of mobile planners who can survey and plan jobs out and about on a tablet – meaning customers wait less time for service
- launched an engineer accreditation scheme for fibre to help share learning on how to cut the cost of building networks and time to install.

### Performance in the year – operating

Our superfast fibre network is now available to more than 27.5m premises. And 9.8m are now fibre customers. We also grew our Ethernet customer base by 11.6%.

### Investing in fibre

We've helped the government achieve its ambition of making superfast speeds available to 95% of the UK. We've done it by over-delivering. We committed to bring superfast speeds to more than 730,000 premises between January and December 2017 (where it wasn't already available). In fact, we brought speeds of 24Mbps or more to 774,000 premises.

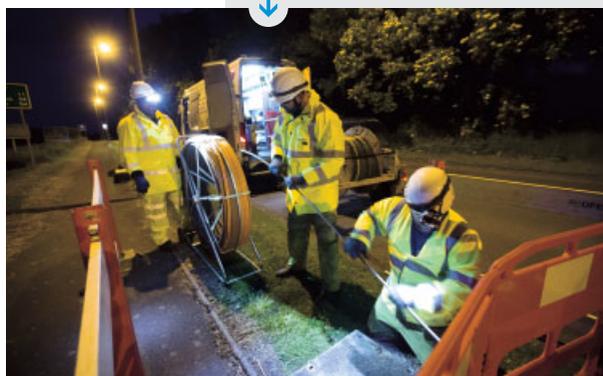
We're investing heavily in our fibre network. Superfast broadband (of over 24Mbps) is today available to more than 27.5m homes and businesses nationwide.

Our FTTP network is the UK's biggest. We delivered more FTTP this year than ever before. Our footprint of 567,000 premises, combined with over 1m on Gfast, means that more than 1.5m premises can get ultrafast.

We're extending our FTTP rollout to reach 3m premises by the end of 2020. If conditions are right we'll go well beyond that – bringing the benefits of FTTP to nearly all UK homes and businesses.

To stimulate adoption, we provide free FTTP to all developments of 30+ properties. Since April 2017, 99% of plots on these sites are contracted to be built with FTTP.

Our engineering teams working through the night to install new fibre cable



**Extending our reach**

We've completed the build of superfast fibre in the BDUK programme to more than 4.8m homes and businesses. To reach more remote communities, we've partnered with local bodies and the BDUK programme.

We've made available £129m of reinvestment funding, earlier than planned. And we've worked with UK Government and local body partnerships to secure further funding to bring fibre to even more homes and businesses.

Checking a fibre node that will deliver high-speed broadband to customers



Our Community Fibre Partnerships programme uses co-funding to deliver high-speed fibre broadband. To date we've signed deals with more than 500 communities. And 250 now have superfast and ultrafast access for over 65,000 premises.

We work with communities to secure funding from lots of different sources. They include the Government's 'Local Full Fibre Network' and 'Better Broadband' voucher schemes and property developers. We've helped more than 60 school communities through our grant scheme to get access to a faster network.

The table below shows how we're doing against the priorities we set for ourselves last year.

**Review of last year's priorities**

What we said	What we did
<b>Connecting Britain to the future</b>	
Expand our ultrafast broadband network with Gfast and FTTP, reaching 2m homes and businesses with FTTP by the end of 2020.	We've passed 1m premises with Gfast and 567,000 with FTTP. By 2020 our 'Fibre First' programme will give FTTP access to 3m premises. And we're continuing to deliver our Gfast platform at scale.
Work to deploy FTTP using microfibre technology.	We've made the most of our existing underground ducts by blowing through microfibre. This means we can build the fibre network more quickly and cheaply.
<b>Delivering a great customer experience</b>	
Achieve our RFT goal of 95% on-time installations by the end of 2017, ahead of Ofcom's Minimum Service Level.	We achieved 95% on-time installations for new lines, significantly ahead of Ofcom's Minimum Service Level.
Hire 1,500 frontline engineers to further improve service.	This year we hired 2,392 extra frontline engineers.
Drive higher investment in fibre skills and grow our Fibre Academy.	We trained around 400 new recruits as fibre engineers this year. And we modernised our training centres so engineers could learn the right skills.
<b>Working with government and industry</b>	
Work with the Government to support its objective for universal broadband coverage.	In December 2017 the Government opted for a broadband Universal Service Obligation (USO) rather than the voluntary offer we'd proposed. We'll now work closely with them, Ofcom and industry to develop the USO.
Launch a consultation with industry to shape future FTTP plans.	We consulted with customers and announced our 'Fibre First' programme. It will bring FTTP to 3m homes and businesses by 2020. We'll begin building FTTP in eight major cities during 2018.

## Our customer-facing units continued

### Openreach continued

#### Performance in the year – financial

Revenue stayed flat. Strong demand for our fibre products was offset by regulatory price cuts and lower copper line rental. EBITDA fell 4% due to higher business rates and pension charges.

Year ended 31 March	2018 £m	2017 £m	2016 £m
Revenue	<b>5,123</b>	5,098	5,100
Operating costs	<b>2,603</b>	2,465	2,441
EBITDA	<b>2,520</b>	2,633	2,659
Depreciation and amortisation	<b>1,360</b>	1,369	1,301
Operating profit	<b>1,160</b>	1,264	1,358
Capital expenditure	<b>1,658</b>	1,573	1,447
Normalised free cash flow	<b>1,048</b>	1,349	1,415

Revenue was flat (2016/17: flat). The 22% growth in fibre broadband was offset by a reduction in our copper line base and regulatory price cuts.

Operating costs went up 6% (2016/17: up 1%) driven mainly by a rise in business rates charged on network assets and higher pension charges.

EBITDA fell 4% (2016/17: 1% fall). Depreciation and amortisation was down 1% (2016/17: up 5%) and operating profit down 8% (2016/17: down 7%).

Capital expenditure was £1,658m, up £85m or 5% (2016/17: up £126m or 9%). This reflects our ongoing investment in fibre broadband speed and coverage which helped us contribute to the Government's ambition to get superfast to 95% of the UK by December 2017.

This was after gross grant income of £179m (2016/17: £159m) directly related to building the BDUK programme. It was offset by an increase in our grant funding deferral of £110m (2016/17: £185m) because of good fibre broadband take-up.

Normalised free cash flow fell 22% (2016/17: 5%) due mainly to higher operating costs and capital expenditure.

#### Our top priorities for 2018/19



#### Investment in fibre technology

- We'll invest further in FTTP, starting in eight UK cities and building to 10m premises by the mid-2020s (as long as conditions are right).
- We'll launch Gfast at scale in the UK to millions of premises, as a critical component of our ultrafast strategy.

#### Decent broadband for all

- We'll support government aims to bring at least 10Mbps broadband speeds to everyone in the UK, and the Scottish Parliament's aim to deliver 30Mbps speeds in Scotland.
- Where we can, we'll deliver superfast or ultrafast speeds higher than the minimum speed.

#### Improving customer experience

- We'll aim to speed up our fibre repair by 3% – ahead of Ofcom's MSLs.
- We'll hire 3,000 extra engineers to support our 'Fibre First' initiative to deliver FTTP across the UK.

## Openreach performance against service responsibilities

↗ Improvement
➤ Steady performance – staying focused
↘ Improvement needed – with plans in place to get back on track

	Ofcom minimum standard	Movement	2017/18	2016/17 <sup>a</sup>
<b>Home and smaller businesses</b>				
Average time to install with an engineer (working days)		↗	13.29	13.65
Average time to install without an engineer (working days)		↗	8.72	9.54
Installations needing an engineer waiting 22 days or longer for an appointment		↗	0.2%	0.24%
Average time for first available appointment date for a new installation (working days)		↘	7.87	7.65
New lines needing an engineer visit not installed 31 days past target date		↗	1.00%	1.32%
Average time to fix faults Maintenance level 1 (working days)		↘	2.14	1.23
Average time to fix faults Maintenance level 2 (working days)		↗	1.66	1.80
Faults not fixed after 31 days or more Maintenance level 1		↗	0.05%	0.55%
Faults not fixed after 31 days or more Maintenance level 2		↗	0.07%	0.64%
<b>Home and smaller business MSLs</b>				
New lines installed on time (WLR3)	89%	↗	95.44%	93.50%
New lines installed on time (MPF)	89%	↗	94.41%	93.76%
First available appointment date for a new installation (working days) 12 days or less (WLR3)	79%	↗	92.10%	90.00%
First available appointment date for a new installation (working days) 12 days or less (MPF)	79%	↘	91.90%	92.40%
Faults fixed within agreed time Maintenance level 1	77%	↗	84.88%	83.39%
Faults fixed within agreed time Maintenance level 2	77%	↗	80.37%	78.12%
<b>Larger business MSLs</b>				
Average time to install (working days)		n/m	40	n/m
Delivery date certainty		n/m	78.4%	n/m
Circuits provided in 30 working days		n/m	61.1%	n/m
Circuits provided in more than 118 working days		n/m	6.6%	n/m
Faults fixed within agreed time		n/m	95.2%	n/m

n/m – The products and areas that Openreach is regulated in for Business Connectivity services changed in 2017/18, making the comparison not meaningful.

<sup>a</sup> The figures in last year's Annual Report were for the fourth quarter, these figures are full-year figures for 2016/17.