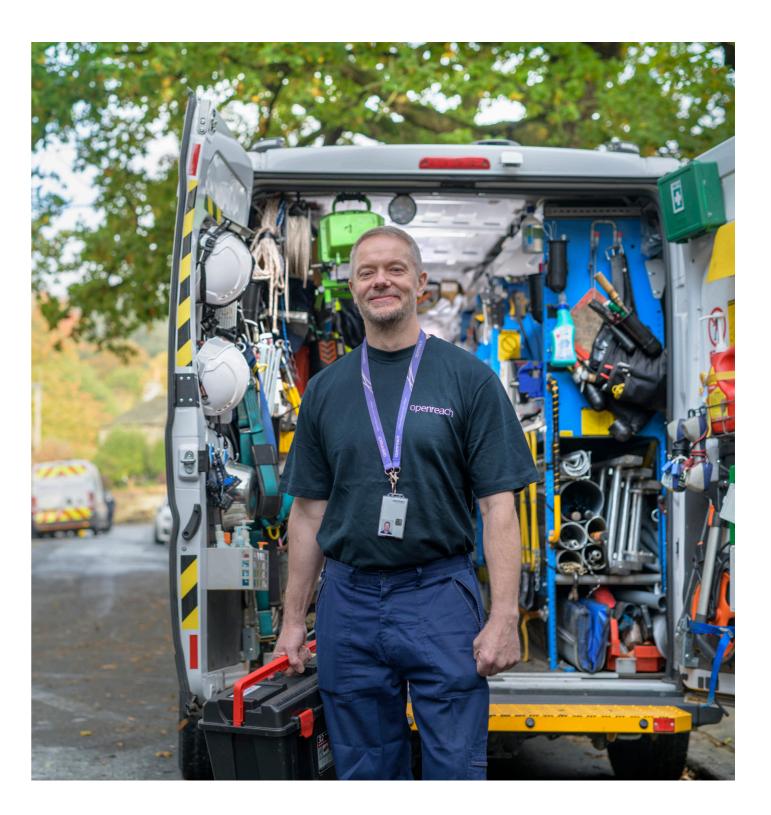
Connecting you to your network

www.openreach.co.uk

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The blueprint for a full fibre future



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Seizing the opportunity





A clothing company in Salisbury triples sales in a year, taking on four new employees thanks to the ultrafast, cloud-based processing behind their new website.



A toddler's life is saved in Dundee when a world class consultant helps with open heart surgery, from Australia, using remote, sensory enabled robotics.



This is a glimpse of our full fibre broadband future. Delivering gigabit speeds of up to 1,000Mbps, it is the most reliable, fast, and future-proofed digital infrastructure and will become the backbone of our economy for decades to come, supporting every aspect of our public services, businesses, industries and daily lives.

Research published by Centre for Economics and Business Research (Cebr) in October 2019 shows that nationwide full fibre could boost UK productivity to the tune of £60 billion by 2025.

And over the next decade, having world-class connectivity at home could help 400.000 more people avoid the commute. They can be launching new businesses or working from wherever they choose to live – reversing a hundred-year trend towards moving to big urban centres. The new network can unlock job opportunities for people otherwise left behind – such as carers, older people and parents looking to return to work. It can transform our public services, unleashing innovations behind better education, healthier longer lives and more connected communities.

Full fibre will make our experience of the internet more slick, secure and reliable - with minimal faults. It is not affected by

poor weather and the extra capacity it delivers means no more buffering videos, no more connections slowing down and no more interruptions when everyone's using the connection at home or in the office.

We're setting the pace

At Openreach, we're excited to be making this vision a reality. We're already leading the way, having reached more than 1.8 million homes and businesses with full fibre. And our engineers are building the new network to more than 23,000 premises each week – that's a home every 26 seconds.

We're continuing to increase the size and scale of our deployment and we're on-track to reach four million premises by March 2021. Our ambition is to upgrade the majority of the country and, with the right support, we could scale-up our build to over three million premises a year. We believe no one

should be left behind. It's important to find a way to support build in both urban and rural areas across the UK, reaching communities no matter where they are.

The National Infrastructure Commission has estimated that building and maintaining a nationwide full fibre network by 2033 would cost £33.4 billion. The majority of this will be paid for by industry, so it's vital that the right conditions exist to incentivise that private investment and maximise the speed and scale of build.

From Leeds and Liverpool to Cardiff and Glasgow we're already investing billions of pounds into our new network and our people. We're building 12 new training schools across the

We believe:

01 Delivering for the whole nation requires an open and competitive market across the majority of the UK. We believe in competition and we want

all consumers and businesses to benefit from the highest standards across the whole country. The Government's Future Telecoms Infrastructure Review (FTIR) established competition as the key driver for investment across most of the country, and this should be supported by a regulatory framework which allows for an open and competitive market. We believe that with the right regulatory framework up to 90% of the UK could be attractive for full fibre investment by the private sector.

02

The speed of fibre rollout could be turbocharged by removing barriers. We need easier access to land, properties and apartment blocks. This will make it easier for companies like us to upgrade connections into buildings by installing new fibre optic cables. A simple and streamlined system for streetworks is also required so that we can upgrade the network efficiently.

The UK's full fibre future is within reach. Together we can create a more connected and competitive economy, help to ease the demand on our public services and transform the way people are able to live and work.

Why full fibre?

Full fibre-to-the-premises (FTTP) broadband is the most reliable, fast and future-proof compared to other broadband services. It's a fibre optic connection running all the way from a local exchange directly to the customer's home or business. And once it's installed, it can be upgraded without being dug up or replaced for the next 100 years.

More than 95% of homes and businesses in the UK can access superfast broadband (speeds of 30 Megabits per second) today, and that will meet most people's needs for the foreseeable future. But with consumers using 40% more data every year and new applications emerging every month, it can only be a stopgap in the long-term.

To keep up, we need a new full fibre network which is ultra-reliable and 20 times faster than existing superfast broadband services. It will be the backbone of an economically prosperous, globally connected and competitive UK. A platform for our daily lives that keeps the UK at the forefront of digital growth.

country and we've hired and trained 6,500 new apprentice engineers over the last two years in communities across the UK. We expect to hire and train many more in the years ahead, as we continue to ramp up our build.

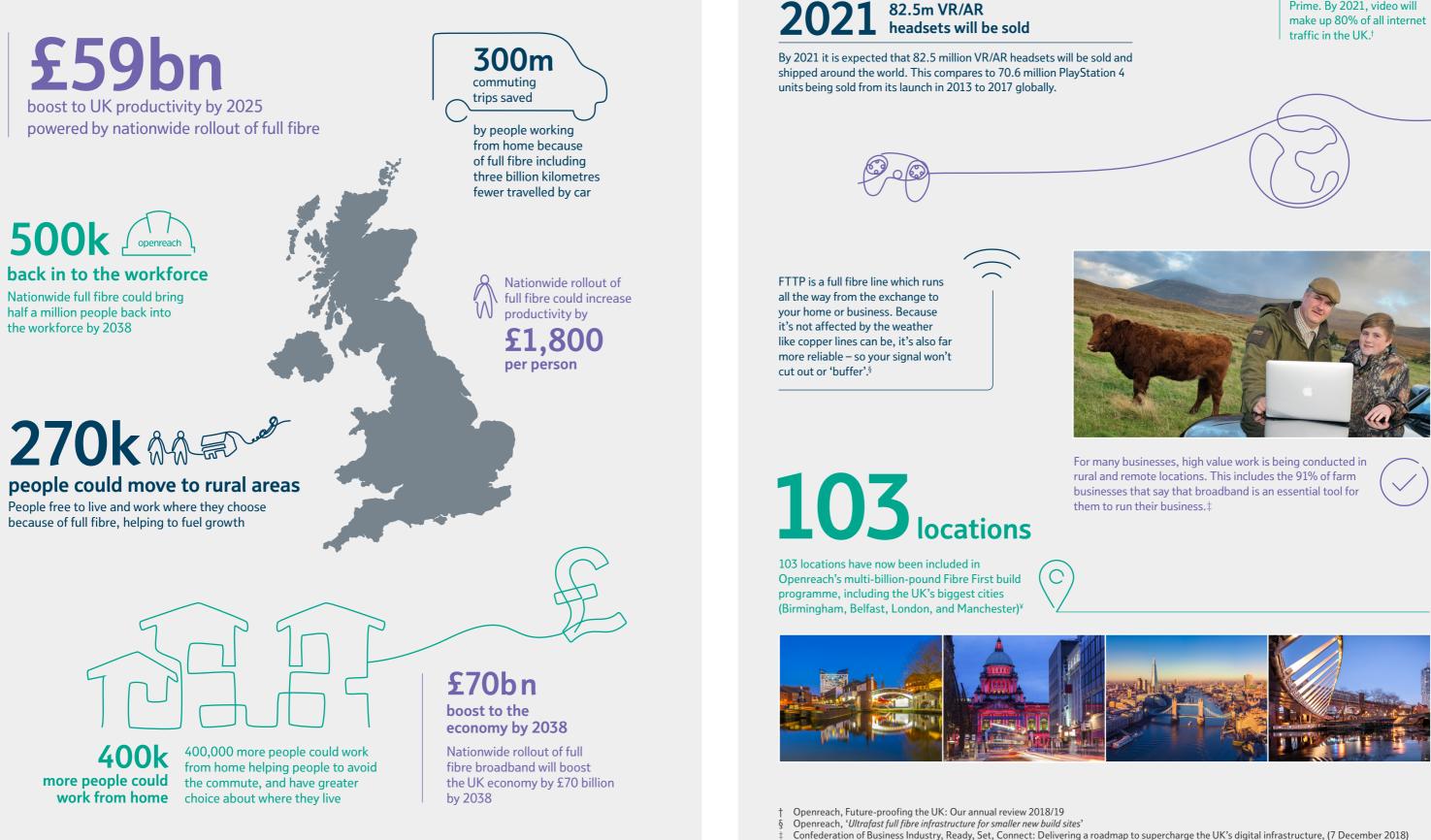
We welcome the Government's announcement that \$5 billion will be invested to support the build of gigabit-capable infrastructure for the hardest to reach 20% of the UK. But improving connectivity for every household in the UK by 2025 needs the industry to build at a faster pace than virtually any other country has achieved. It will require decisive and coordinated action from Government, the regulator Ofcom and the wider telecoms industry to make it a reality.

03

No-one should be left behind.

Whether it's remote rural communities or vulnerable, less tech-savvy customers, we want to bring everyone with us. That's why we need to see build in both rural and urban areas to ensure networks reach every community across the UK. Only if everyone plays their part in reaching some of the hardest to serve areas of the UK with full fibre, will we have delivered on our ambition.

Full fibre broadband: a platform for UK growth





Data usage is growing 40% each year, mainly driven by people watching on-demand TV like Britbox and Amazon Prime. By 2021, video will make up 80% of all internet

¥ Openreach, 'Futureproof broadband coming to 29 new locations as Openreach accelerates its nationwide build programme', (02 October 2019)

Delivering for the whole nation

We believe everyone in the UK should get access to the best broadband technology providing gigabit-capable speeds. We also believe that full fibre is the most future-proof way of delivering this. With the right regulation, up to 90% of premises could be attractive for commercial investment.

We think that everyone should be able to benefit from the same level of service wherever they live.

We believe the Government and Ofcom should support:



of premises could be attractive for commercial investment.

An open network. The UK needs a network that every Communications Provider can use, and every consumer can tap into. The Government and Ofcom have set competition as the key driver for investment across the country and this will help unlock a commercial case for companies to build across most of the UK.

Upgrade. We have set out some key principles for how we upgrade our people to our new network. These include taking an exchange-based approach, offering new products, and an emphasis on voluntary migrations. We want the experience to be a positive one for consumers. We expect most people to upgrade voluntarily, but ultimately migrating our customers from legacy copper services to our new fibre network requires an 'upgrade' moment. Pricing will be an important lever, including a higher cost for copper-based services that encourages the switch, allows costs to be recovered and unlocks further investment. We are working closely with the industry to do this with minimal disruption and as quickly as it's practical to do so.

A consistent investment environment. Building full fibre infrastructure is a longterm investment which will only deliver a commercial return for private investors over decades. We need a consistent and long-term regulatory framework that supports investment and competition. The priority must remain on delivering the infrastructure that the UK needs, at pace. We believe that with the right regulatory environment, up to 90% of the UK could potentially be commercial for full fibre investment and build.

Driving awareness and demand. To achieve the best results for businesses and consumers, and to generate the return on investment required, we need to create an awareness of – and demand for – full fibre. We will need to work collectively across the whole industry to explain the fantastic benefits full fibre brings businesses and consumers. Only around 50% of the country has so far chosen to upgrade to existing superfast services, so clearly there's a big challenge ahead in getting everyone to make the jump to ultrafast.

We're working with Communications Providers to develop a range of attractive packages, but – as with the Digital TV switchover – we may need to promote the benefits of full fibre to both the industry and the end users through a public information campaign.

What is an open network?

An open network like ours means all our services are available to everyone at equivalent prices and under the same Terms and Conditions, no matter who is buying them.

Openreach customers are Communications Providers (currently 620 and increasing) - companies like BT, Sky, TalkTalk, Vodafone and Zen. They use our network to offer a huge variety of services, driving competition, lower costs and providing more choice to families and businesses across the UK.

Full fibre allows the whole family to share



Shaun Duffield dad of eight children

The next level for an Esports revolution

The Esports industry is on the rise. Whether it's 1,000 people playing Fortnite or single player FIFA enthusiasts, one thing's for sure – if you're going to win, a fast, smooth, reliable internet connection is crucial.

For the British Esports Association (BEA), a not-for-profit national body established to promote Esports across the UK, this has never been more vital. It runs the British Esports Championships to schools and colleges, with 170+ teams taking part, and connection problems often result in delayed or interrupted matches.

Full fibre can bring an end to all that – and not only at marquee events and tournaments. It will allow the average gamer to play competitively from home, without the disadvantages and inevitably 'taking the L' that poor connectivity brings.

Arguments were rife. Shaun Duffield from Leeds says his old broadband simply couldn't keep up with the demands made by the family's gaming consoles, smart TVs and smart phones.

As a dad of eight children with twenty online devices between them, Shaun is no stranger to noisy arguments.

Reliable ultrafast fibre broadband has made bickering over who gets to stream their favourite show or game a thing of the past. Now they can all do what they want whenever they want.



online devices









Accelerating the build

Installing a nationwide full fibre network is a huge task. It's one of the largest privately funded civil engineering projects in the UK, employing tens of thousands of people.

Our ambition is to reach 15 million homes by the mid-2020s, and we want to do even more. But we need the right conditions to achieve that.

Action from the Government and the regulator is vital to help accelerate the rollout and make sure there's an opportunity for investors to get a fair return. The following changes are crucial:

Removal of business rates that penalise fibre build and ambition.

blockers to investment in full fibre so we're asking for the sector to be exempt from business rates in order to stimulate more investment. Currently there's a relief on business rates until 2022, but payback on digital networks takes decades, so investors need a clearer long-term commitment by the Government.

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The current business rates system limits UK investment in deploying and adopting digital infrastructure improvements.

CBI: Ready, Steady, Connect, December 2018



Business rates are one of the biggest

This has already happened to help support investment in the renewable energy sector and the Treasury wouldn't see a decline in its current business rate revenue in the short term, as rates would continue to be paid on the existing copper network. And the economic uplift from a full fibre network would result in greater tax revenues in the future whilst maintaining the UK's competitive edge.

Accessing multiple dwelling units (blocks of flats) and Local Authority

buildings. Today we struggle to access 44% of the UK's flats and local authority buildings, meaning increased costs and delayed installations. Other utility companies – water, electricity and gas – don't suffer the same restrictions to property access, and we believe network builders would benefit from having similar rights.

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It's incredibly frustrating, we're just stuck in this legal limbo. The freeholder doesn't have to pay anything, there is no liability, all they have to do is sign an agreement giving Openreach permission to lay cables.

Tim F, who lives in an apartment block near the Gherkin, central London

Local authorities can also significantly speed up the build by granting us permission to access their buildings and the land and premises where they have control.

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The complex structure of property ownership in the City and central London has led to delays in delivery due to Openreach and other operators struggling to engage building owners and their managing agents to seek wayleaves for the installation of ultrafast broadband. We are working with our long leaseholders and other major building owners in the Square Mile to engage operators on this important issue. Our draft 'City Plan 2036' also includes the need for full fibre to be installed in all new developments throughout the City.

A City of London Corporation spokesperson

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Mandating fibre in new build

developments. More than 165,000 new homes are built each year. Every one of these new homes should have access to an open, wholesale full fibre network – bringing choice and competition to homeowners. Today we offer to build full fibre infrastructure for free to any development with more than 30 homes and we share the cost on smaller sites. But mandatory full fibre for new builds would ensure no new homeowner gets left behind. We could also expand the network faster if full fibre was mandated to be installed when buildings, like offices or blocks of flats, are refurbished.

More efficient streetworks and traffic

management. We know how annoying it is for people to be held up by roadworks when utility suppliers are upgrading and repairing their networks. That's why we always try to exploit our existing network and work in tandem with other utility suppliers. When we have to do some digging or close a road, the advantage of fibre over copper, is that once it's laid, we won't need to touch it again. It can carry increasing levels of data and it's weatherproof. We believe priority should be given to building this new digital network – which would speed up the build and reduce costs.

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Openreach have chosen Liverpool because of our efforts to work with them on making this investment possible. And we will make this work, because the benefits are massive for our city.

Joe Anderson, Liverpool Mayor

Attracting and training the right

talent. We've hired 6,500 engineers over the last two years, and they're being trained at our new schools dotted across the UK. They're part of our 33,000 strong team, but achieving the government's ambition requires a huge civil engineering programme which will need an even bigger skilled workforce across the whole industry. That's why it's vital that Openreach and our civil engineering suppliers can continue to get access to the right people – even if they're from outside the UK. Openreach is one of the largest employers of ex-armed forces people in the UK. It runs a highly successful Transition Force programme, which has supported more than 1,500 veterans from all ranks, including the wounded, injured and sick, in their move from military life into civilian employment.

Cheryl Burgess, an ex-military officer swapped the cockpit of a fighter jet for a career at Openreach and says:

-66 Openreach is a great place to work,

with a strong sense of community and everyone is extremely supportive.

Cheryl Burgess, Openreach

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Continued access to a helpful international trading environment.

We have a global supply chain which means that many of the components in our network are manufactured by international suppliers. We take the security and stability of our network very seriously and like the rest of the industry, work closely with the Government and security agencies to ensure this. A diversified supplier base improves the quality of our network, innovation and value of the services we offer. For that to continue, it's critical that we can access a wide range of suppliers, wherever they're based. It's important that the Government considers this as it continues to review UK supply chains.

Leading innovation from the heart of a cathedral city

At Openreach, we believe UK businesses should be able to thrive in the global marketplace, wherever they're based. We want to upgrade villages, towns and cities across the country to full fibre, no matter how challenging the location, or how ancient its streets.

Thanks to Openreach's pilot project to upgrade the entire city of Salisbury, we're now delivering fibre optic broadband cables directly to more than 20,000 premises there. Cutting edge businesses such as 'Innovate – helping inventors' and its 30 employees can now operate and grow from the picturesque setting of one of England's oldest cities, connecting seamlessly to satellite offices in London, Paris and San Francisco.



Full fibre will greatly improve communication tools, such as video conferencing, to accelerate the expansion of our business overseas. In addition, it will revolutionise the time it takes to complete a project, with the heavy-duty 3D CAD processing being outsourced to the cloud. We will be able to offer a world-class service while enjoying the Salisbury city life and beautiful surrounding countryside.

Alastair Swanwick, Managing Director, Innovate – helping inventors

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Innovating as we build

The challenges of building a new network are tough. So, we're always looking for ways to work smarter and encouraging our people to challenge the way we do things, put forward new ideas and improve the way we deliver for our customers. We also spend millions of pounds on R&D and working with our industry partners and suppliers which has led to us coming up with new and better ways of building.

We know, for example, digging trenches on private land to lay a duct is never popular. So we're road-testing a new piece of kit called the GeoRipper. A blade carves a narrow trench into soft ground, allowing us to lay small fibre cables of up to 150 metres. The GeoRipper is ten times faster than digging these manually, and leaves everything much tidier.

Another good example is the optical network termination (ONT) which is a box of electronics that sits on a customer's wall. It has four data ports and two voice ports. Our customers don't use all of the ports, so we're developing a smaller version with one data port and one voice port. It's a third of the cost of the ones we use at the moment. And we hope customers will be happier too, because it'll take up less room.

No-one left behind

We believe every community has the right to enjoy great connectivity, and as we upgrade our network, we also need to ensure that everyone, including our most vulnerable customers, are supported.

Building full fibre in less dense, and rural areas is complex and brings with it a unique set of challenges, but we want no one to be left behind. That's the reason we've signed up 100,000 UK premises through our co-funded Community Fibre Partnerships scheme and it's why we're working with Government to connect premises through the Building Digital UK (BDUK) programme. We welcome the recent news of a £5 billion investment for gigabit-capable infrastructure for the UK's hardest to reach communities. But there is much more to do to ensure rural communities benefit:

We believe:

01 A 'balanced-build' approach – ensuring digital parity across urban and rural UK. Openreach is not just a city fibre broadband builder. We're committed to delivering full fibre in the UK's rural communities and we believe other network builders should be investing in rural too. There are already a number of programmes to improve broadband speeds in rural areas and we need the Government to look at how programmes like BDUK, Reaching 100% in Scotland and Stratum in Northern Ireland will interact with these new funds. We also need these new funds committed quickly to make sure that rural communities see benefits soon.

O2 Supporting commercial investment in the final third of the UK. We believe public funds should be focussed on the hardest to reach 10% of the UK, where there's no possibility of commercial investment by the private sector. However the Government may also be able to support commercial full fibre investment in rural areas beyond this 10% – perhaps by targeting funding for upgrades at rural schools and other public buildings.

03 Protecting customers. We need to ensure that whilst we upgrade the country, we don't leave anyone behind, and we protect vulnerable customers. We're working with the Government and Ofcom to ensure that we get the right consumer protections in place by running trials in Salisbury and Mildenhall. These trials will help us to work with phone and broadband providers to understand what's required to upgrade people smoothly to the new network. We plan to publish a Consumer Charter which will set out our commitments to protecting consumer interests. And we're working closely with Ofcom as it consults with the whole industry on this important issue.

Our commitment to rural communities

Pembrokeshire Investing in our children

The 22 pupils of Ysgol Llanychllwydog in Fishguard, rural Pembrokeshire, are an unusual lot for two reasons: they were the only school in Wales without broadband and they couldn't wait for the start of the new school term.

Thanks to Openreach's Community Fibre Partnership Programme, which is designed to connect hard-to-reach places, by the time the students' summer holidays ended, their school had a new, ultrafast connection.

By working with the Department for Digital, Culture, Media and Sport, Openreach helped this small Pembrokeshire community to unlock funding that has made slow internet a thing of the past. By supporting the community to draw on the Rural Gigabit Connectivity programme's voucher scheme Openreach has been able to lay fibre optic cables along a 15-mile route from Haverfordwest, at a much-reduced cost.

The work has been a huge challenge, involving ploughing 1.5 miles of new trenches to put new ducts in, installing new poles and spanning cable between 50 poles.

Connecting one of the most remote communities in the UK

The extremely isolated Sutherland hamlet of Altnaharra, in the Highlands of Scotland, now has some of the fastest broadband speeds in the world.

Around 60 Altnaharra households and businesses are able to order more reliable, ultrafast, full fibre broadband over a network capable of carrying services up to 1Gbps – around 22 times faster than the current UK average. Until now, due to the high cost of bringing faster broadband to very small communities in remote areas, many of the villagers had been making do with some of Scotland's slowest connections of around 0.5Mbps.

We can compete with anyone. Even though we are a traditional hotel from the 1800s. Openreach did us proud with what we have and changed lives in the village quite dramatically.

Manager Altnaharra Hotel

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Teacher Amanda Lawrence had to drive 10 minutes to her other school to send an email every time the internet went down.

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It's frustrating. There are lots of schools that are able to use schemes where you can plan electronically, but it was difficult for staff here to do that.

Amanda Lawrence, Teacher

Now, Amanda will be able to give her pupils all the benefits interactive learning and modern education has to offer.

We've reached 100,000 homes and businesses with our Community Fibre Partnership programme

Openreach's Community Fibre Partnership (CFP) programme is helping to ensure those harder to reach communities are not left out of this digital revolution. Through a CFP, Openreach works with a local community to build a customised solution to bring fibre broadband to homes and businesses in their area. We do this by putting a joint funding arrangement in place, which means we contribute to some of their costs.

Openreach has partnered with the Government's new Rural Gigabit Connectivity (RGC) voucher scheme, launched in May 2019. This has helped provide funding to support the cost of installing new FTTP or gigabit-capable connections in the hardest to reach communities.

The CFP programme shows Openreach's commitment to never say no to any community that wants better, fibre broadband connectivity. Openreach will work with anyone and everyone to find a way forward.

About Openreach

When it comes to the country's essential broadband infrastructure, no company is investing more, building faster or aiming higher.

Openreach was created following Ofcom's strategic review in 2005, ensuring all Communications Providers have fair access to the phone and broadband network, previously controlled by BT. We are a legally separate, independently governed wholly owned subsidiary of the BT Group.

Our team of telecoms experts build, maintain, and manage more than 173 million kilometres of cable stretching from Scotland to Cornwall, Wales to Northern Ireland. Reliable broadband, faster speeds, broader coverage and better service, one home and business at a time, 25,000 customers every day, eight million completed jobs every year. This is what we at Openreach are proud to provide. We've already accelerated the nation's fibre rollout, laying down enough fibre to reach the moon and back, while continuing to reduce build costs.

We are a business that is at the heart of the community, hiring more apprentices than any other private sector business in the UK – many of whom are ex-service men and women – and building new training centres across the country to support our 25,000 skilled, trained engineers.

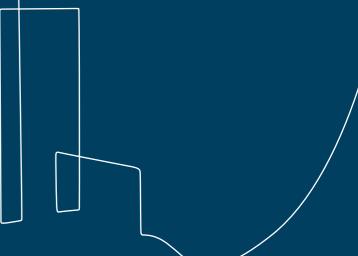












Building the largest fibre network in the UK

We plan to hire a further 3,000 trainee

engineers over the coming year to

the end of March 2021.

underline our ambition to be the UK's

national 'full fibre' broadband provider.

We're now committed to build to **4m by**

4m

1.8m

Homes and businesses

Last year we accelerated our fibre build programme, doubling our FTTP footprint to 1.2m, building at a run rate of **23,000** premises per week, using a number of innovative solutions such as ribbon cable and optical test head.

Homes and businesses

Homes and businesses

15m

This sets us on the right trajectory to achieve our current ambition of reaching 15m with FTTP by 2025, if the conditions are right, and to go on to reach the majority of the UK.

Contact

For media enquiries, please contact: press@openreach.co.uk

Or, if we can be of assistance for any constituency issues please contact: public.affairs@openreach.co.uk

For any specific constituency case work you can also contact our dedicated team at: parliamentary.help@openreach.co.uk

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Announced 103 FTTP locations

Northern Ireland

Antrim Armagh Ballyclare Ballymena Ballymoney Ballynahinch Banbridge Belfast	Carrickfergus Coleraine Cookstown Craigavon Derry-Londonderry Downpatrick Dungannon Enniskillen	Greater Belfast (Carryduff & Castlereagh) Greater Belfast (Newtownabbey) Larne Limavady Lisburn Magherafelt	Newcastle Newry Newtownards & Bangor Omagh Portrush Portstewart Saintfield Strabane
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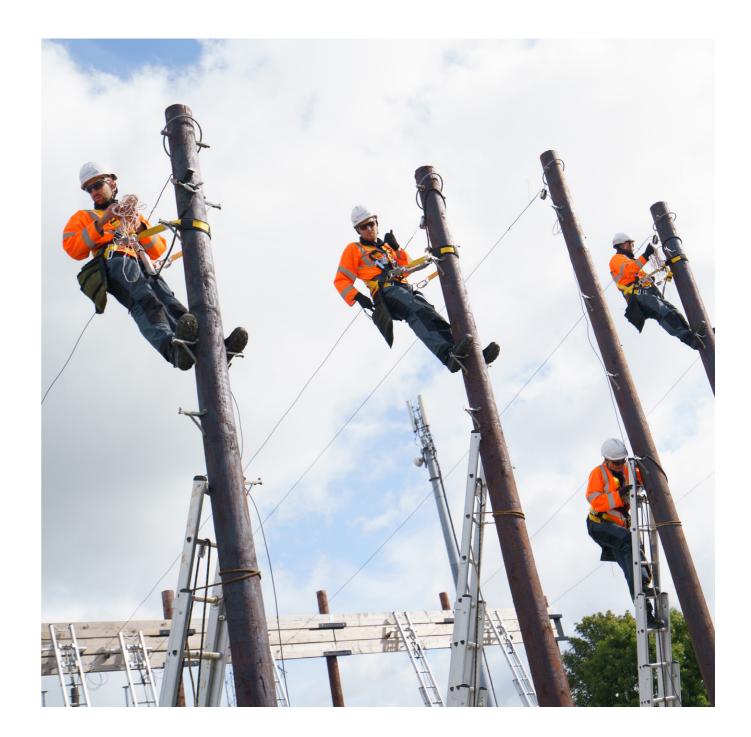
Great Britain

Aberdeen
Aughton
Ayr
Balham
Barking & Dagenham
Barri / Barry
Basingstoke
Bathgate
Bexley
Billericay
Birmingham
Bradford
Brentwood
Brighton
Bristol, City of
Broadstairs
Bromsgrove
Broxburn

Burgh Heath
Bury
Cardiff
Chelmsford
Chorleywood
City of Edinburgh
City of London
Coventry
Croydon
Derby
Doncaster
Epsom
Ewell
Exeter
Greater Glasgow
Harrow
Hatch End
Kilmarnock,
East Ayrshire

Leeds
Lichfield
Liverpool
Manchester
Merton
Molesey
Newbury
Newcastle-upon-Tyne
Northampton
Norwich
Nottingham
Ormskirk
Ramsgate
Redbridge
Richmond upon Thames
Rickmansworth
Royal Sutton Coldfield
Royal Tunbridge Wells

Salford
Salisbury
Sheffield
Slough
Solihull
St Albans
Stanecastle
Stockport
Swansea
Swindon
Thames Ditton
Tonbridge
Torquay
Watford
Whitburn,
West Lothian
Wickford
Wirral
Worthing



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