

# AN INFRASTRUCTURE REVOLUTION

## FULL-FIBRE BROADBAND CONNECTING COMMUNITIES ACROSS THE UK

The modern UK economy is heavily reliant on access to the internet, and fast and stable connections are vital to remote and flexible working, as well as for many SMEs. However, widespread use of copper cables and long distances between exchanges and homes have resulted in slow and unreliable connections in many areas, and there is a difference of almost 40% in average speeds between rural and urban communities.

As part of its plans to level up the economy across Britain, the Government has accelerated plans to roll out **full-fibre broadband** and bring faster and more reliable internet connections to the whole country.



## WHAT IS FULL-FIBRE BROADBAND?

Full-fibre broadband is an ongoing project to replace existing copper internet lines with fibre-optic connections, in order to provide fast, reliable and future-proof broadband across the UK.

It was originally planned to be in place by 2033; however, a Government review in 2019 brought the target date forward to 2025 following significant consumer demand.

The final cost to roll out full-fibre broadband nationwide is expected to be around £33.4 billion, which will see around 50,000 new premises connected each week. £5 billion was pledged by the Government as part of the 2020 Budget to connect the hardest to reach communities, with the remaining cost to be paid by the telecommunications industry.

### Delivering an Infrastructure Revolution

Whilst economic and social infrastructure projects are often in the headlines due to the amount of money spent on them and the disruption caused during their construction, they generate huge long-term benefits. By providing better local services, new jobs, cleaner air and faster connections, modern infrastructure helps to level up opportunity and prosperity across the UK.

[Build UK's factsheets](#) cover a range of local and national projects explaining what they are and why they are being built in Britain today.



## WHY WE NEED FULL-FIBRE BROADBAND

Full-fibre broadband will transform the way the UK's population connects and kickstart a new digital era for the economy. Once rolled out nationwide, it will:

- Increase the productivity of the workforce by an estimated 3.8%
- Create up to 1.2 million new jobs
- Enable more elderly, infirm and physically impaired people to enter the workforce
- Improve connectivity and outreach across the UK
- Make remote working viable for an additional 400,000 people, helping to reduce the nation's carbon footprint through reduced commuting.

## FULL-FIBRE BROADBAND IN NUMBERS



**£33.4bn**  
estimated investment



**£59bn**  
increase in productivity  
by 2025



**400,000**  
more people able to  
work remotely

## KEY ISSUES

- The most remote areas of the country could **cost** up to £45,000 per household to connect and will require Government support. However, according to a report from the National Infrastructure Committee, 86% of people think that the country should have equal access to full-fibre broadband and the project remains commercially viable overall.
- Installing and laying new cables can cause **disruption**, although the work is staggered and often takes place at night, as well as through modern, less intrusive methods, which helps to minimise the impact.
- Over 40% of flats and local authority buildings struggle to receive full-fibre due to an inability to contact and obtain **permission** from the landlord. However, new legislation is being prepared which is expected to allow engineers to enter premises without their permission in order to install and repair the network.

# WHO WILL BENEFIT?

## Workers

- According to a 2020 report by the Centre for Economics and Business Research, an increase in nationwide internet speed could boost employment by as much as 1.6%, equivalent to almost 1.2 million jobs, and grow the number of new businesses by up to 3.2%
- Recent research by Openreach suggests that a full-fibre network could increase UK productivity by as much as £59 billion over the next five years, equivalent to £1,800 per worker
- An estimated 400,000 older and infirm individuals could re-enter the workforce via remote working, with 270,000 workers potentially free to move to more rural areas
- People impacted by the coronavirus pandemic will benefit from a significant boost in productivity when working from home, making remote and flexible working more sustainable in the long term.

## The Economy

- The benefits to SMEs are worth an estimated £8.7 billion, driven by increased productivity, flexible working, and innovation as towns and cities in the UK are connected to full-fibre networks
- Full-fibre broadband has fewer faults and technical issues, and is therefore cheaper to maintain than the existing copper network, with estimated savings of £5 billion in operating costs over the next 30 years
- Fibre-optic cables can deliver intelligent traffic management by acting as Distributed Acoustic Sensors. This could be used to replace overhead and roadside sensors on roads, reducing closures and maintenance costs.

## The Environment

- A reduced need for commuting, office-based work and in person meetings will lower demands on transport infrastructure, contributing to approximately 3 billion fewer kilometres travelled by car each year and reducing annual CO<sup>2</sup> emissions by 360,000 tonnes.

### Further Information

Broadband Stakeholder Group (2019) [Impact Full-Fibre and 5G Investments](#)  
Centre for Economics and Business Research (2020) [Using Digital to Revive the UK](#)  
House of Commons Library (2020) [Briefing Paper on Full-Fibre Broadband in the UK](#)  
National Infrastructure Commission (2018) [National Infrastructure Assessment](#)  
Ofcom (2018) [Connected Nations](#)  
Openreach (2019) [The Blueprint for a Full-Fibre Future](#)  
Point Topic (2020) [Metrics for the UK independent Network Sector](#)  
Regeneris/CityFibre (2018) [The Economic Impact of Full Fibre Infrastructure](#)

Find out more

[www.openreach.com](http://www.openreach.com)

Contact us

[www.BuildUK.org](http://www.BuildUK.org)

