

# B4RN<sup>®</sup>

Broadband for the Rural North Ltd





# About B4RN

**B4RN delivers the fastest fibre optic broadband connection in the UK to rural homes, businesses and schools. Its customers are now among the 10%\* of properties in the UK that have access to full fibre broadband.**

B4RN has been operating since 2011 providing a high quality service and installing a state-of-the-art telecoms network.

B4RN operates differently from commercial providers and it is these differences that are key to B4RN's success:

- B4RN is a Community Benefit Society. Any profit made is returned to the community.
- Most of our members are from communities where B4RN has been built and are also B4RN customers.
- B4RN's community engagement means it can **install the network in remote areas for a fraction of the price of commercial providers**, by agreeing access across land rather than digging up roads for example.
- The high costs faced by other providers means that without B4RN, these communities may remain underserved for years.

B4RN operates in rural communities around the UK. Most of the network is in the North West.

B4RN employs more than 50 staff. We provide high skilled engineering and networking jobs in a predominantly rural and agricultural area.

## **What is a community benefit society?**

Community benefit societies conduct business for the benefit of their community. They are set up with social objectives to conduct a business or trade and are run and managed by their members. They are registered by the Financial Conduct Authority.

Importantly, community benefit societies (like B4RN) contain an asset lock in their governing rules whereby retained profits are not distributed amongst members or external shareholders, but instead are returned to the community.



# B4RN & The Community

**B4RN is a community benefit society which installs 1 gigabit-per-second capable full fibre optic broadband in rural communities. These communities then jump from poor or no coverage to among the fastest broadband connections in the UK.**

## **Working with the community is a better solution**

Compared to a commercial provider B4RN has:

- A different ownership structure as it is owned by thousands of members. Each member has one vote, irrespective of the size of investment.
- A different funding structure, with its own customers providing capital to fund the network installation.
- A collaborative approach whereby local communities plan and help deliver the local infrastructure solution.

B4RN works with the local communities in the following ways:

- Local residents and businesses raise some of the cost of the installation of the network. This is invested into B4RN through withdrawable community shares.
- Local landowners (farmers, estate owners etc) agree to provide access across their land (for no cost) to connect the community. This significantly reduces

the cost of installation as commercial companies will generally need to pay landowners or lay the cables under the roads, which is many times more expensive.

- Residents can train to become community contractors, to help maintain and install parts of the network.
- In a new area the early adopters will be connected immediately when the network is installed. Over time other residents and businesses will decide to join the network. With locally trained contractors these infills can be done by people in the village who can also earn a fee for the work.

- **B4RN provides free internet access to all the primary schools and places of worship in its network.**

This early engagement means that B4RN is in effect invited into the community. The service is wanted, and the installation is supported by local residents. Sufficient demand from service users is demonstrated through this engagement before any community is connected.



# Setting Up A B4RN Project

- B4RN typically engages with community groups on the scale of a parish.
- B4RN's model is to plan and build the network for the whole parish to ensure no one misses out, no matter how rural they live or work.
- Representatives of B4RN will meet locals and explain how the broadband service can be provided.
- If the community wants to bring B4RN to the parish, then they will work together with B4RN to:
  - Plan the network: Where will the cabinet go? Whose land does the network cross? How many roads, streams and hills are in the way?
  - Promote B4RN to residents of the parish and encourage them to sign up for B4RN service.
  - Arrange access rights across land. B4RN volunteers will work with landowners and farmers to enable B4RN access to dig a trench and install the cables.
- B4RN does not pay for access across the land or pay rent for the regional cabinet which keeps the network overheads down.
- B4RN will estimate the cost of installing the network and the community group will then set about raising capital through community shares.
- **Currently, government voucher funding is paying for most of the build, so the community only has to raise the shortfall.**
- Once there is sufficient demand and funds raised, B4RN will start the installation.



Village Hall Meeting



# Funding B4RN

A B4RN project is funded by two means: 1. Government vouchers 2. Investment

## Government Voucher Funding

### What is it?

- B4RN are a registered supplier with the Rural Gigabit Connectivity programme.
- The funding is provided by DCMS (Department for Digital, Culture, Media and Sport).
- The funding is available to upgrade homes and SME businesses to gigabit-capable broadband.
- In order for B4RN to access the funding, businesses and residences must register for a voucher application on the B4RN website. B4RN can then apply to DCMS for the voucher funding.

### Eligibility

- All homes and business must sign-up for 12 months service to take part in the scheme.
- Any home or business subject to a voucher application must be receiving a broadband speed of **under 100Mbps**.
- Other business only rules apply; relating to an SME's size, accounts and previous State Aid.

## Council Top-ups

- B4RN projects in **Cumbria** and **Northumberland** can access match funding for RGC vouchers from their local council. The scheme is available until March 2021.
- Essentially, the top-ups will mean funding targets can be hit sooner and with fewer properties applying for vouchers - meaning B4RN projects can start more quickly.
- **Important:** only properties with a broadband speed **under 30Mbps** are eligible for these top-ups.

## Investment

- Government funding usually covers most of the build cost, with the shortfall raised by local community investment. (**NB:** you do not have to invest to get a B4RN connection).
- Shares must be held for a minimum 3 years (then they can be withdrawn by the shareholder) and have an attractive return (currently 5% p.a.).
- Invest £1,500 and the connection fee (£150) is waived.
- Investment makes you a member.



# How Is B4RN Built?

- Firstly, a regional cabinet is installed, typically in the centre of the village. Fibre is then dug in to connect it to the rest of the B4RN network.
- A number of fibre routes will then be dug from the cabinet, heading out in different directions to reach all areas in the parish.
- B4RN will lay ducting all the way to the property boundary (usually the garden wall).
- The last bit of digging through the garden is arranged by the homeowner. The homeowner can either install their own duct; get a B4RN approved contractor to do it; or ask the local community group to do it.
- Properties in a voucher funded area are eligible for a £150 dig grant to cover the cost of digging the garden and installing at the property.
- Once the network is built, any properties which didn't take service initially can request to be added and B4RN will come back and connect them. (NB: Voucher funding may no longer be available, it is better to sign up early.)

## Who does the digging?

- The core routes are built by B4RN approved contractors using vibrating mole ploughs or diggers ensuring the ducting is laid at the correct depth.
- Local contractors can train to build to B4RN standards and can dig trenches for a fixed rate per metre.
- Many B4RN groups form a community digging group which carry out some digging as well, typically the garden digging to connect properties.

## B4RN's Changing Approach

- Early B4RN projects were dug by hand with volunteers earning shares through digging trenches, carrying equipment and even supporting by making tea.
- As the organisation has grown the approach has changed and more of the construction is now undertaken by contractors.
- Community groups and volunteers are still heavily involved, though. e.g. Volunteers will work with land-owners to agree access rights for the network to cross fields which significantly reduces the installation costs.
- There are still plenty of opportunities to get involved with digging and building the network for those who want to.



# Digging!



Laying Core Route



A Lane Crossing



Connecting a Chamber



Installing a Cabinet Base



Using a  
Trencher



Community Dig



# How It Works



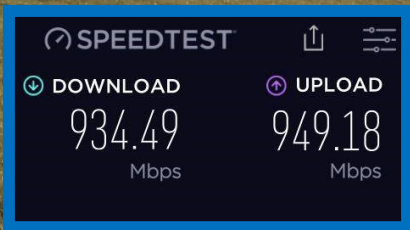
The core network is connected to a cabinet, usually located in the centre of a village.



Larger ducts are layed from the cabinet to carry the fibre, which is sent down the duct via a process known as 'blowing'.



The fibre is 'spliced' inside an enclosure called a 'bullet'. These can be found in our chambers.



Enjoy your gigabit broadband speeds!



The fibre goes into the property at the Fibre Wall Outlet (FWO) and is connected to the router.



The fibre is 'fused' at the property's Customer Connection Enclosure (CCE).



Smaller ducts carry the fibre to each individual property.



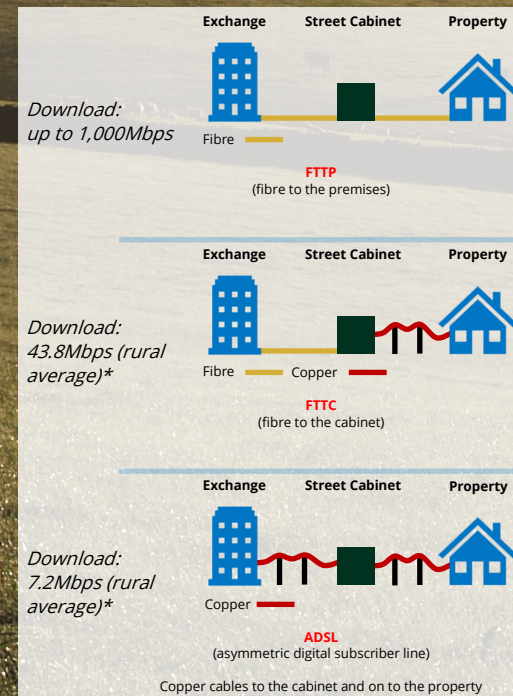
# Building a Gold Standard Network

- B4RN full-fibre broadband, where ultra-fast optical cables carry data right into your home or business, is the "gold standard".
- While full-fibre connections can currently promise speeds of one gigabit per second, future upgrades could potentially offer speeds in terabits per second. (B4RN already offers a 10Gbps service)
- B4RN full-fibre also delivers very low latency: that means less delay between sending a request for data over the internet and getting a response.
- Low latency connections promise new opportunities for remote work, especially in fast-paced industries that cannot afford delays.

## What is full fibre broadband?

There are three main types of broadband connection between your local exchange and your property (**see right**).

- Old landline telephone infrastructure uses copper cables. Accessing the internet with that is slower than over fibre optic cables.
- Fibre optic cables are made from glass or plastic and use pulses of light to transmit data, offering much faster internet access.
- Full-fibre broadband - **like the B4RN network** - is an FTTP connection: the entire line to your home uses fibre optic cables.







Broadband for the Rural North Ltd

**We're often asked: why is it worth going to the effort to make B4RN happen?**

**And what am I even going to do with 1,000Mbps?**

**Here's some things to think about...**

**Our homes are even smarter...**

The so-called 'Internet of Things' can easily be shared around a B4RN gigabit connection.

Smart speakers, security cameras, fitness trackers, kitchen appliances, and smart heating and lighting are adding to the number of internet capable devices.

**Viewing habits are changing...**

In 2006, Netflix didn't stream videos. It sent DVDs. Now it accounts for 15% of global internet traffic.

Chances are, some of the biggest bandwidth hogging applications haven't been invented.

You will definitely need the bandwidth B4RN offer. You just don't know what for yet.

**Adding value to your home...**

A 2014 study by two universities\*\* implied a good broadband connection could add nearly 3% to the price of an average property.

Fast internet is important to buyers - tellingly, property websites now include broadband speed checkers alongside details like local schools.

**No more waiting for uploads...**

Everyone talks about download speed. But for many, *upload* speed is the problem.

According to Ofcom, the average upload speed in the UK is 7.2Mbps\*.

B4RN's symmetrical gigabit connection will make a big difference to anyone uploading photos or broadcasting video.

**Healthy bodies & keen minds...**

More medical devices now collect and send invaluable data to doctors using the internet, avoiding the need for patients to make stressful trips to appointments.

Meanwhile, distance learning is becoming increasingly popular. Well over a hundred UK higher education institutes offer online courses.

**Reducing the daily grind...**

If you work from home or run your own business, there is nothing worse than waiting for a file to download, or struggling to respond to customer queries.

B4RN's gigabit connection allows you to take advantage of the rise of cloud-based tools and VoIP technology.

**We've got the basics covered...**

You can surf the web, book holidays and go online shopping and banking with B4RN.

While other providers let you do that, with our connection there's no peak time slowdown.

And if the kids or visiting friends and family want to stream 4k videos at the same time, there'll be no frustration.

\*Ofcom. (2019) UK Home Broadband Performance: The Performance of Fixed-Line Broadband Delivered to UK Residential Consumers. London: Ofcom

\*\*Ahlfeldt, G. M., Koutroumpis, P., & Valletti, T. M. (2014). Speed 2.0: Evaluating Access to Universal Digital Highways. SSRN Electronic Journal. doi:10.2139/ssrn.2492234



# B4RN Service & Charges

## Hyperfast

At 1000Mbps (1Gbps) our standard gigabit service is many times faster than our average competitor. This means that every member of your household or business can use fast broadband simultaneously without frustration.

## Reliable

Unlike slower 'superfast' broadband providers we don't use any overhead copper landlines – all our ducts are buried. Water ingress doesn't affect our fibre and nor do high winds. So next time there's a storm you don't need to worry about losing your connection!

## Affordable

No one in our area can offer a service anything like B4RN. Even slower 'superfast' broadband providers struggle to offer prices that match ours because they still require you to pay line rental. Once you have B4RN installed, you can dispense with your landline and use your B4RN connection for an internet based telephone service (third party call charges apply).

## Supportive

We don't have 24-hour call centres all over the world, but we do keep office hours in Melling with caring, knowledgeable staff. Our own technical teams who build and support the entire network have a next-day response policy for anyone with service issues, and a 24/7 response for core network faults.

## Charges

Households:

£150 connection  
£30/month service

Non Domestic Users:

- Micro businesses (1-5 site staff)\*  
£150 connection  
£30/month service

- Small businesses (6-15 site staff)\*  
£150 connection  
£60/month service

- Medium businesses (over 15 site staff)\*  
£150 connection  
£150/month service

\*Holiday cottages, caravan sites, schools, larger businesses, hotels, churches etc all have special pricing plans that take into account their special circumstances.

## Connection fee waivers

There are cases where the £150 connection fee is waived. Such as for someone who invests £1,500 or a business which successfully applies for voucher funding.

## Free Service

B4RN offers a **free service** to primary schools and places of worship in our parishes. Village Halls which host our cabinets also get free service.



# Case Studies part 1

## 1. The Resident

Lesley Gee in Over Kellett used to know whether it was worth firing up her computer by looking out her front window and seeing what the weather was doing with her telephone line. If it was windy and the copper line was blowing about she knew it was a bad time to try and get online.

Lesley's played a key role as a volunteer in bringing B4RN to Over Kellett and her and her family can now enjoy their gigabit full fibre connection, with everybody online at the same time without frustration.

Lesley says: "One of my daughters lives away and so I don't see them as much and she has a little boy, who's eight.

"So he quite regularly FaceTimes me and tells me about what he's been doing at school, or beavers, or how he's done in his swimming.

"And it's nice to be able to see him rather than just getting a message; and he enjoys doing that and we can do that now because, obviously, the signal stays static."



## 2. The Small Business

The Churchmouse in Barbon puts on a diverse offer to survive. It's a village store, delicatessen, cafe and bistro.

Their B4RN connection is another thing they can offer to the local community and visitors.

Jules Natlacen runs it alongside husband, John. She says: "We have people visiting us who have really large files to download and they're not able to download those files on the normal broadband service even though it may be classed as 'hyperfast'.

"For our family life, it means that the kids can be doing their homework on laptops all over the house while we are downloading a movie or John and I are working as well. Again, the download speeds don't drop. It's amazing.

"There's a lot of rural areas round here that have really poor Wi-Fi - B4RN hasn't yet reached them. And those areas round here know we can offer that for them and even if they just buy one cup of coffee and sit here for three hours it really doesn't matter."





# Case Studies part 2

## 3. The Charity

The Bendrigg Trust near Old Hutton is a place where people with disabilities and special needs can enjoy learning outdoors.



The people running it say the B4RN connection there has "revolutionised" the way they work.

Senior Fundraising & Marketing Officer Sarah Garman expands on that: "Most of our payments, traditionally, have been through cheque. A lot of people won't even know what a cheque is anymore! Now we are introducing online payments.

"It's making us more efficient and meaning that we can concentrate on our visitors - which is where we should be putting all of our concentration rather than on out-dated systems that frustrate people."

Principal Nick Liley concludes: "Staff are working so much more efficiently. Downloads and uploads are instant now, whereas we would have to sit and wait.

"As a charity that is absolutely essential. It's so important that we are efficient and that we're spending charitable money wisely."

## 4. The Special School

Calder Lodge School near Calder Vale is a new school for children with SEMH needs.

The people behind it say they chose the location knowing they could connect to B4RN.

Alan Rainford's among the staff and says: "We're looking to provide a service for pupils who can't manage in mainstream schools due to social, emotional or mental health issues.

"And so when we found this property here and knew B4RN was coming to the area, we knew we could get it. I've got it at home already so I knew what it could do for us. It fit perfectly for what we wanted.

"We've got seven screens in the building. They've all been running video at the same time - high quality video - without a drop out. That facility, for us, is amazing.

"The phone system goes through it. The day-to-day stuff of saving files and bits and pieces and running all these screens as well, without a hitch, is fantastic."





# Further Information

For more about B4RN:

[b4rn.org.uk/about](http://b4rn.org.uk/about)

To learn more about the B4RN community:

[b4rn.org.uk/b4rn-community](http://b4rn.org.uk/b4rn-community)

For more about investing and government funding:

[b4rn.org.uk/b4rn-shares-prospectus](http://b4rn.org.uk/b4rn-shares-prospectus)

[b4rn.org.uk/b4rn-service/rgc](http://b4rn.org.uk/b4rn-service/rgc)

Full details of our charges:

[b4rn.org.uk/b4rn-service/charges](http://b4rn.org.uk/b4rn-service/charges)

News about B4RN:

[b4rn.org.uk/news](http://b4rn.org.uk/news)

To keep up with the latest for all things B4RN follow our social media channels:

Facebook - [facebook.com/B4RNorth](https://facebook.com/B4RNorth)

Twitter - [twitter.com/dig2agig](https://twitter.com/dig2agig)

LinkedIn - head to [linkedin.com](https://linkedin.com) and search “broadband for the rural north”

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