

# Superfast Broadband & What Can It Do For Your Organisation?

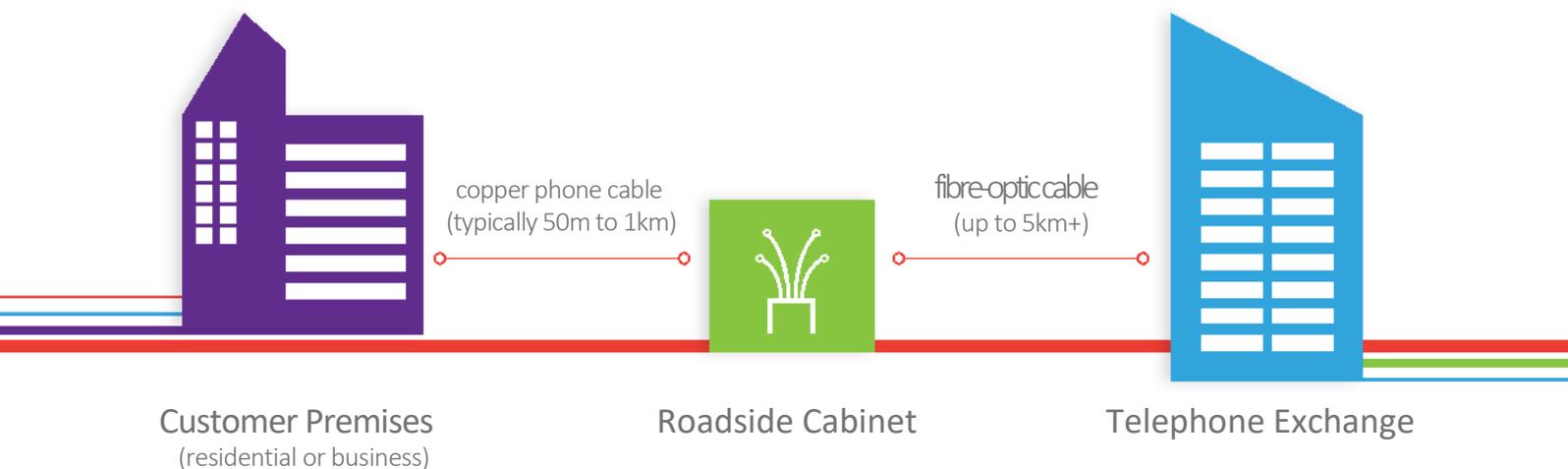
## A Network for the 21st Century

Superfast Broadband (also known as Fibre to the Cabinet, or FTTC) is the latest version of broadband that is available to both consumers and businesses. Over the last few years, billions of pounds have been invested across the country in replacing the network of copper cables that inter-connect local telephone exchanges with fibre-optic cables. BT has named this project 21st Century Network or 21CN.

With the new core networks in place, the second stage has been to replace the copper cables running from your local exchange to the green cabinets you see on the side of the road. Hence, Fibre to the Cabinet. In most instances, the copper cables that connect your building to the cabinet will remain in place. However, for new buildings and larger office developments, these will be replaced with fibre-optic cables. Known as Fibre to the Premises, or FTTP.

### Fibre-to-the-cabinet (FTTC)

FTTC broadband means that most of the 'local loop' (the phone line from your premises to the telephone exchange) is using fibre-optic cable, with the last few metres being copper. This means you get faster speeds as the short copper line can run VDSL rather than ADSL technology.



## Technology

To-date, broadband connections have used a technology called ADSL (Asymmetric Digital Subscriber Line) to connect devices to the internet. In a simple set-up, ADSL shares the analogue telephone line with traditional voice calls, a splitter is used to combine the cables from the router and the telephone into a single connection at the BT socket. ADSL is asymmetric, meaning that it can transmit more data from the internet (download or downstream) than it can transfer to the internet (upload or upstream).

In an FTTC set-up, the broadband and voice still share the telephone line. However, because of the relatively short length of the copper cable, the internet can be accessed at higher speeds than ADSL; using a different technology called VDSL (Very High Bit-Rate Digital Subscriber Line).

From the roadside cabinet, information is transmitted digitally through fibre optic cables, not much thicker than a human hair, which can carry thousands of telephone calls and internet sessions simultaneously.

Fibre optic cables operate at higher bandwidths and over longer distances than copper cables as the information carrier is light rather than electricity. Fibre optic cables offer less resistance to light than copper offers to electricity.

- More reliable, as fibre optics are less susceptible to electrical interference
- Higher bandwidth than copper, so capable of carrying more voice and data traffic
- Faster, because of laser switching and lower resistance

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## Broadband Options

There are three basic versions of ADSL, known as ADSL Max, ADSL 2+ and ADSL Annex M. The table below illustrates their respective upload and download speeds.

Operating across the different ADSL connections, broadband services are available with a range of upload and download speeds.

Broadband Option	Upload Speed (max)	Download Speed (max)
Broadband Basic -ADSL 2+	1.3MB	8MB
Broadband Plus -ADSL 2+	1.3MB	24MB
Broadband Premium -Annex M	2.5MB	24MB
Superfast Broadband	10MB	40MB
Superfast Broadband	20MB	80MB

## Advantages of FTTC

The higher speeds and bandwidths provided by FTTC mean your organisation is able to make the most of the range of IT and communications technologies available:

- Cloud Computing
- Hosted Telephony
- Virtual Private Networks
- Mobile Working
- Unified Communications
- File Sharing and Collaboration
- Multiple applications to the line without sacrificing speed
- Faster Internet Browsing

## Superfast Broadband Availability

This [Online ADSL Checker](#) lets you know what services are available to your location.

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