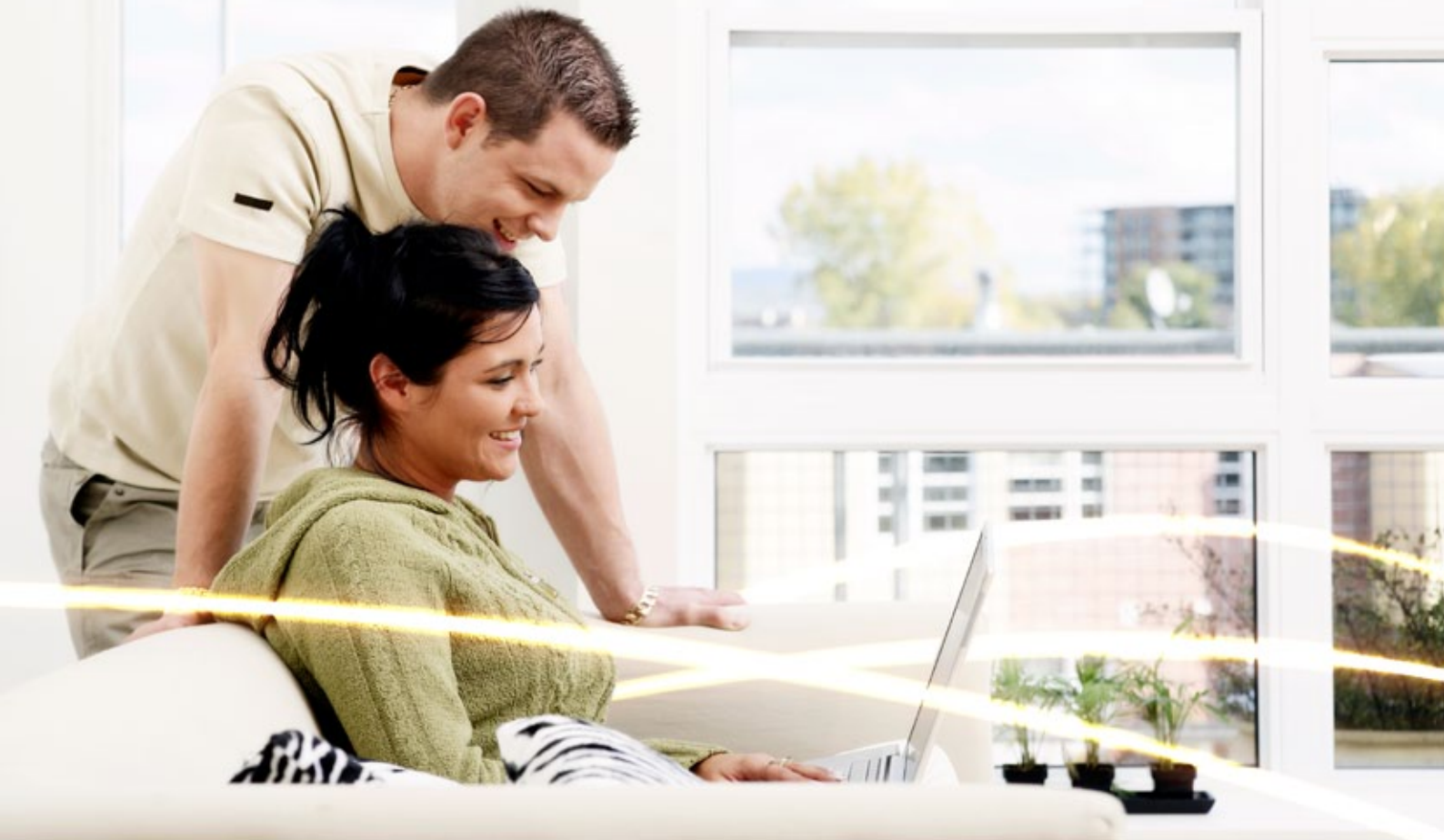


Superfast fibre broadband  
**The future starts here**



# Contents

- 1 Your licence to speed on the internet**
- 2 Revolutionising the way you think about and use the internet**
- 4 Superfast fibre broadband is the future**
  - In the home
  - Running a business from home
  - Working from home
  - Running a business from dedicated premises
- 7 Superfast fibre broadband – how it works**
  - How does Fibre to the Cabinet work?
  - How does Fibre to the Premises work?

# Your licence to speed on the internet

People have been banging on about broadband changing the way we live, work and play for ages. And it has. We can go online to purchase goods and services, watch movies and TV shows, download music, socialise, play games and work remotely.

Which is all well and good. However, the explosion of choice can cause a log jam on the broadband front, especially when several people in the same household want to do their thing online simultaneously.

The same applies to people who run their own businesses from home; people who work from home on a full time or part time basis; as well as those who travel to and from the office daily. Today's broadband simply isn't fast enough for them. It can't cope.

Openreach will be using the £2.5 billion committed by BT to make superfast fibre broadband available to two-thirds of the homes in Britain by 2014. In speed terms, you're talking downloads of up to 40Mbit/s and uploads at up to 15Mbit/s.

People across the UK are now benefitting from these speeds through their preferred communications providers\*. And millions more around the country will have joined them by the time the Olympics come to London.

Impressive though these figures are, they're by no means the limit of what Openreach has already achieved with superfast fibre broadband.

We're installing a pure fibre optic network at the greenfield development at Ebbsfleet in Kent, where the first occupants are already able to download information at a blistering 100Mbit/s! When completed, Ebbsfleet will be the UK's first mass scale pure fibre optic network, serving 10,000 homes and businesses.

\*Openreach is solely responsible for providing, maintaining and improving the network that connects your home or office to the telephone exchange that serves you. We don't sell the communications services like broadband that run over the network. Only a communications provider can do that. There are 450 of them around the country. So there's plenty of choice.

# Revolutionising the way you think about and use the internet

Superfast fibre broadband isn't just about superfast speeds, welcome though they are going to be in the download and upload departments.

It's about everyone in the house or office being able to do their thing online at the same time, without slowing someone else down or having to wait for someone else to finish what they're doing.

Superfast fibre broadband is equally about revolutionising the way you think about and use the internet...

For example, you'll soon be able to rent the very latest version of your favourite business software online for a nominal monthly fee, instead of going to the expense of purchasing it outright.

Think how much money that could save you in initial costs for word processing, spreadsheet and accountancy software, for example; not to mention the additional costs for upgrades as and when they become available.

As increasing numbers of people go online to access their applications, compatibility issues will become a thing of the past because everyone will be working with the same version of software.

By the same token – as computer processing and data storage become online activities – you won't need the processing power, memory and hard disk space that you've got on your computer today. Which should equate to money-saving on the equipment front. In short, superfast fibre broadband means that you won't need hi-spec kit to be hi-tech.





# Superfast fibre broadband is the future

Superfast fibre broadband is about everything you'll need and want to do online in the future. In fact, it is the future...

## In the home

One person could be watching a 3D/HD movie or 3D/HD TV programme, while another is engrossed in a sporting event, again in 3D/HD, and yet another is watching live streaming video. You can look forward to downloading:

- Individual music tracks in 2 seconds
- Entire albums in 30 seconds
- HDTV programmes in 5 minutes
- Feature length HD movies in less than 10 minutes.

Similarly, uploading will be much faster than today's broadband. You'll be able to:

- Post video clips to social networking sites in an instant
- Immerse yourself in the reality of 3D/HD videoconferencing with friends and family
- Enjoy interactive 3D/HD gaming to the full.

## Running a business from home

You're already competitive because you don't have the overheads of your larger rivals. Thanks to superfast fibre broadband, you'll also be able to look and act as professionally as them, by taking advantage of:

- Collaborative working with clients through online file sharing and realistic HD videoconferencing
- Hosted business applications to reduce costs compared to purchasing software outright
- A combination of hosted applications and online data storage to reduce the cost of computer hardware.

## Working from home

Superfast fibre broadband will, for the first time, allow home-based staff to access exactly the same information and applications as they do at the office. And they'll be able to do so just as quickly as they do now, if not more so. They'll also be able to work collaboratively:

- Sharing files online with colleagues and customers alike
- Taking advantage of 3D/HD videoconferencing for more effective meetings with colleagues, customers and suppliers.



## Running a business from dedicated premises

Imagine a communications environment where you'll be able to do everything you do today, but faster and even more effectively and efficiently.

For example, you'll be able to enhance the buying and selling experience, optimise your administrative processes and save money; as well as take advantage of the real power of information for the very first time:

- Consider the added reality, vitality and faster decision making enabled by 3D/HD videoconferencing
- Shared online workspaces and online file sharing will bring new meaning to the term collaborative working
- You'll be able to take advantage of a growing raft of hosted applications – from Customer Relationship Management and transaction processing; to sales force, HR, expenses, website and inventory management.

You might decide to collate information from several sources – such as voice, email and Instant Messenger – analyse it and automatically send it to individuals and teams who you know will find it of value.



Super-fast fibre  
[www.openreach.co.uk](http://www.openreach.co.uk)

# Superfast fibre broadband – how it works

Superfast fibre broadband comes in two flavours:

- A part fibre, part copper infrastructure (Fibre to the Cabinet) capable of delivering download speeds of up to 40Mbit/s now – and up to 80Mbit/s during 2012 – and upload speeds of up to 15Mbit/s
- A pure fibre infrastructure (Fibre to the Premises) capable of delivering download speeds of 100Mbit/s now – with 300Mbit/s coming in the future – and upload speeds of 30Mbit/s.

## How does Fibre to the Cabinet work?

We're overlaying a huge swathe of our copper network with fibre – the section that runs from local exchanges to Openreach street cabinets.

The network that delivers today's broadband over an all-copper infrastructure is powered by electronics at the exchange. The further from the exchange, the slower the broadband speed. That's because of the nature of copper. It was designed to carry the human voice – not big chunks of data.

Fibre, on the other hand, is a quite different animal. A single fibre is capable of carrying a great deal more information than copper wiring, and doing so in a far shorter space of time.

Even though the final link with Fibre to the Cabinet will still be copper (i.e. from the Openreach street cabinet to your premises), the distance will be comparatively short; typically no more than two or three hundred metres, and often much less.

Moreover, the electronics at the exchange are being replaced with miniaturised cards installed in our street cabinets. Putting it another way, Fibre to the Cabinet will move the exchange much closer to your doorstep.

## How does Fibre to the Premises work?

The key difference with Fibre to the Premises is that fibre is provided all the way from the exchange to the premises. Unpowered optical splitters enable a single fibre to serve up to 32 homes and businesses. Buried underground fairly close to the premises being served, optical splitters are equivalent to Openreach street cabinets. We call them T-nodes.

While there's still an element of dedicated fibre with Fibre to the Premises (i.e. from the splitter to the premises being served), the fibre connection back to the electronic card at the exchange is effectively shared.

From the communications perspective, fibre means that you don't get the distance-related degradation of service associated with copper. Fibre splitters can be buried up to 20km from the exchange. Moreover, as there are no active components with fibre, there's nothing to go wrong in the normal course of events!

Want to know when you can get...

... Superfast fibre broadband enabled  
by Openreach? Then speak to your  
communications provider or visit  
[www.superfast-openreach.co.uk](http://www.superfast-openreach.co.uk)

[www.openreach.co.uk](http://www.openreach.co.uk)

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