

# Technology installed through the R100 Scottish Broadband Voucher Scheme

## Fibre to the Premises

Fibre broadband uses a network of fibre optic cables to deliver high-speed broadband to your home or business.

The cost of providing Fibre to the Premises – also known as FTTP – particularly in rural areas can be very high, often reaching tens of thousands of pounds for one property and usually requires a cluster of premises to be connected before a supplier is able to make a commercial return.

The reasons for this can be complex, but one of the main causes is the expense of having to dig new fibre into the ground to reach a property. This means that even with the voucher subsidy it could still be un-economical for a supplier to connect you with FTTP.

Since the R100 Scottish Broadband Voucher Scheme was launched, around 20% of beneficiaries\* have received a broadband connection via Fibre to the Premises.

\*at December 2022

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## Fixed Wireless Access broadband

Fixed wireless access broadband is an outdoor wireless network, that can range from a few hundred metres to many kilometres.

This type of broadband is usually provided by local or regional registered suppliers. Modern Fixed Wireless Access broadband equipment and speeds can provide high quality fast connections in areas where Fibre to the Premises may not be economic for suppliers.

The cost of providing Fixed Wireless Access broadband is likely to be affordable for suppliers using your SBVS voucher. However, there are some limitations that you should be aware of.

Fixed Wireless Access broadband networks in Scotland generally cover areas that are within set distances and line of sight of radio masts. If you live too far away from a mast, or there is no line of sight to your property because of hills or trees that can block the signal, then it may be difficult for a supplier to connect you.

Most Fixed Wireless Access broadband suppliers can complete a desktop survey to help you understand if this is a viable option for you. Sometimes, our suppliers will look to combine a number of vouchers in your area so that they can use the funding to put up a new mast and connect you and your neighbours.

Since the R100 Scottish Broadband Voucher Scheme was launched, around 53% of beneficiaries\* have received a broadband connection via Fixed Wireless Access.

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### **Fixed Wireless Access using 4G or 5G**

4G Fixed Wireless Access provides internet connectivity by using one of the UK's mobile networks. With 'fixed mobile' a special WiFi router is installed with a mobile SIM card and connected by cable to an external aerial in a suitable outdoor location.

4G Fixed Wireless Access is often used by our suppliers in rural or isolated properties where Fibre to the Premises or Fixed Wireless Access is not available. However, there are some limitations that you should be aware of.

4G Fixed Wireless Access broadband networks in Scotland cover areas that are within set distances and line of sight of mobile network radio masts. If you live too far away from a mast, or there are hills or buildings that can block the signal, then it may be difficult for a supplier to get a signal that's strong enough to supply a superfast broadband service. It's also possible that if lots of people are connected to the same mast as you, at the same time, your broadband speed will drop.

Since the R100 Scottish Broadband Voucher Scheme was launched, around 25% of beneficiaries\* have received a broadband connection via 4G Fixed Wireless Access.

If you live close to a mast and already receive a strong mobile signal, there may be alternative methods for you to improve your broadband connection. Speak to your mobile phone company to see if they can offer you a router or antenna that can provide a mobile and broadband connection. A range of comparison websites are available to shop around – pricing and products change frequently, so it may be worth your while looking to see if this option can work for you.

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### **Satellite broadband**

Satellite broadband uses a dish or antenna on your property to connect to a satellite in space. The broadband works without the need for any other connections, such as a fixed telephone line. There are two sorts of satellite services available – Geostationary (GSO) and Low Earth Orbit (LEO).

Geostationary satellites remain in the same position 35,000km above earth as it rotates. Low Earth Orbit satellites work in constellations that orbit around the earth. There are pros and cons to both systems.

A range of operators offer Geostationary satellite broadband across much of Scotland, providing superfast broadband speeds. The time it takes for the signal to travel to the satellite and back (the latency) means that some multi-player gaming applications could be impacted. Since the R100 Scottish Broadband Voucher Scheme was launched, around 2% of beneficiaries\* have received a broadband connection via a Geostationary satellite.

You may find that you can already receive a Geostationary satellite service without the use of a voucher.

Residential Low Earth Orbit satellite broadband is relatively new and is currently only offered by Starlink. Low Earth Orbit satellite connections are similar to fixed broadband services in terms of the speeds, latency and data available.

At the moment no Low Earth Orbit satellite operators have signed up for the R100 Scottish Broadband Voucher Scheme. Please keep an eye on our website, as things may change.

\*at December 2022