


Mobile Infill Infrastructure Solution (MiiS)

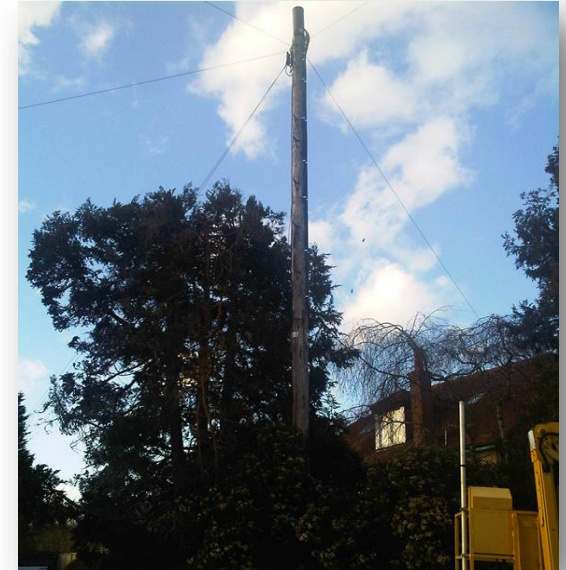
Customer presentation

July 2017



Overview

- MiiS enables the provision of localised radio coverage in locations where there are existing poles available.
- It can be used to help resolve mobile signal black spot issues and expand overall coverage. It is especially useful in rural and suburban residential areas where poles are most common.
- MiiS will be available to Mobile Network Operators (MNOs) who have licensed mobile spectrum or to Communications Providers (CPs) who have MNO customers with licensed mobile spectrum.
- Mobile Network Operators (MNOs) deploy their own 3G and / or 4G radio equipment in the MiiS cabinet to provide additional mobile coverage from the MiiS site to their customers in the local vicinity within the coverage of the antenna.



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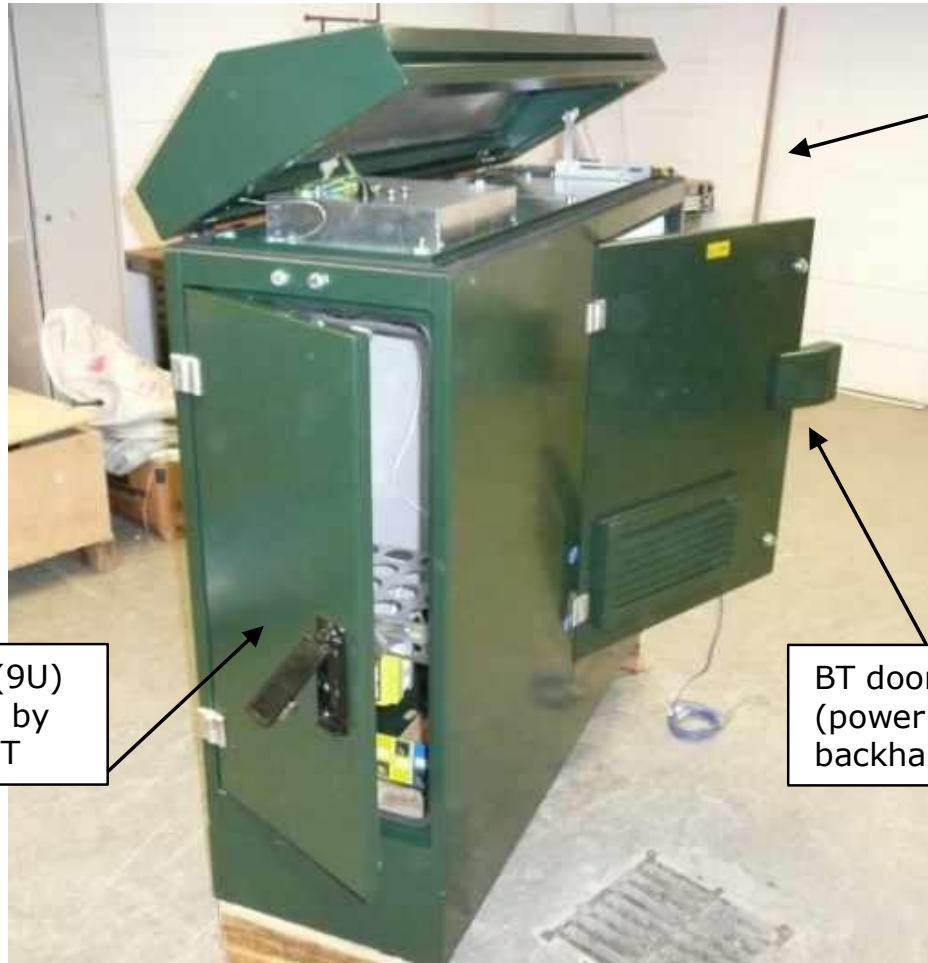
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How MiiS can support you

- MNOs are under increasing pressure to improve 3G and 4G mobile coverage across the UK.
- The Openreach pole estate is well located to provide site options for MNOs to fill in coverage black spots in their networks.
- MiiS enables MNOs to provide cost effective localised coverage.
- Typically cheaper to deploy than traditional macro cell tower sites where smaller pockets of coverage are required.



The MiiS cabinet



MNO door (9U)
is accessed by
MNO and BT

BT door
(power and
backhaul).

MNO door (3U)
(behind cabinet)
accessed by
MNO

Mobile Infill Infrastructure Solution (MiIS)

How it all works

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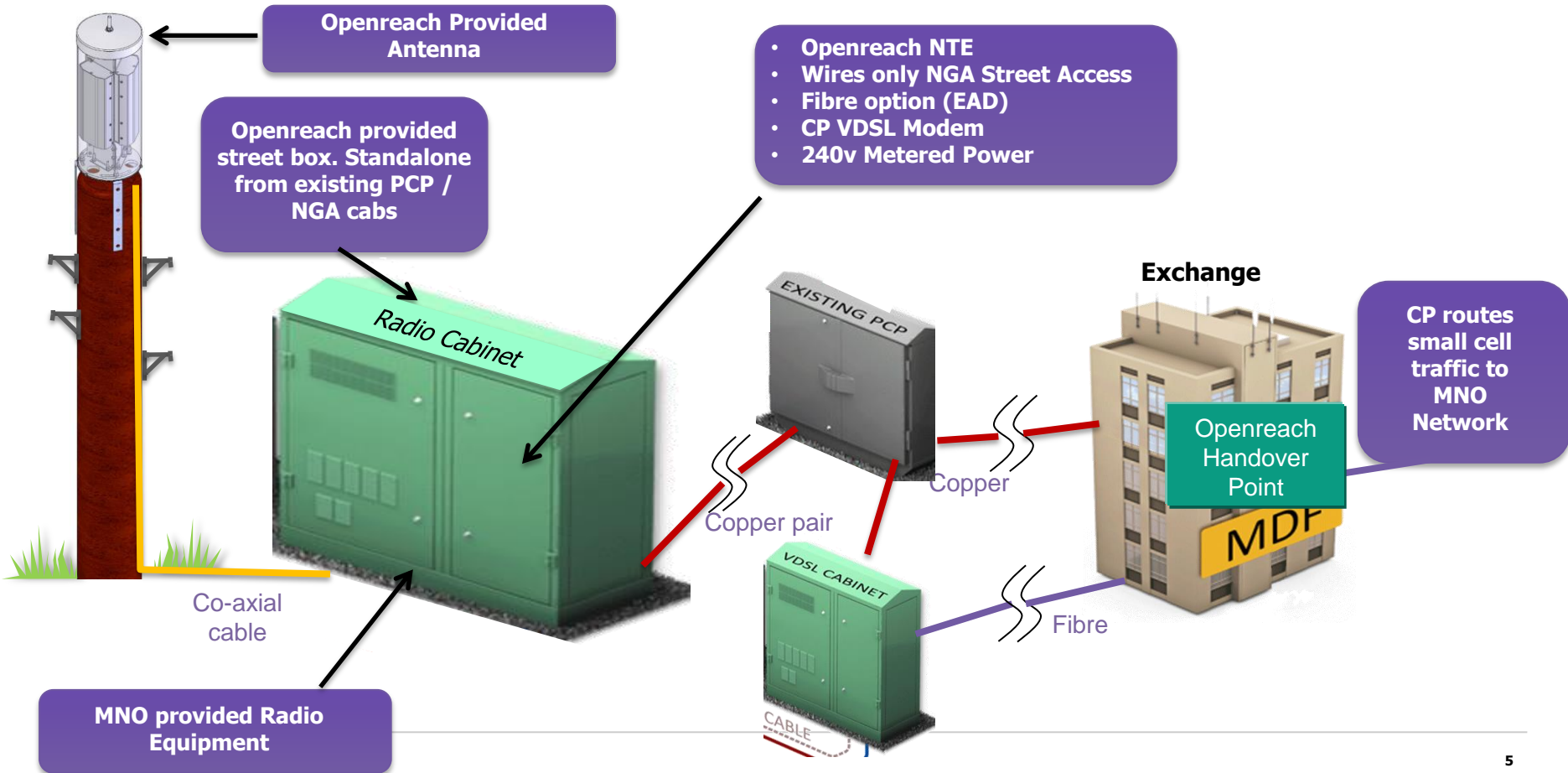
Will provide and install pole antennas, street box, power and fixed connectivity with NGA Street Access or fibre option (EAD)

Communications Provider

Will provide backhaul to MNO core networks

Mobile Network Operator

Will provide the spectrum, end users and radio equipment



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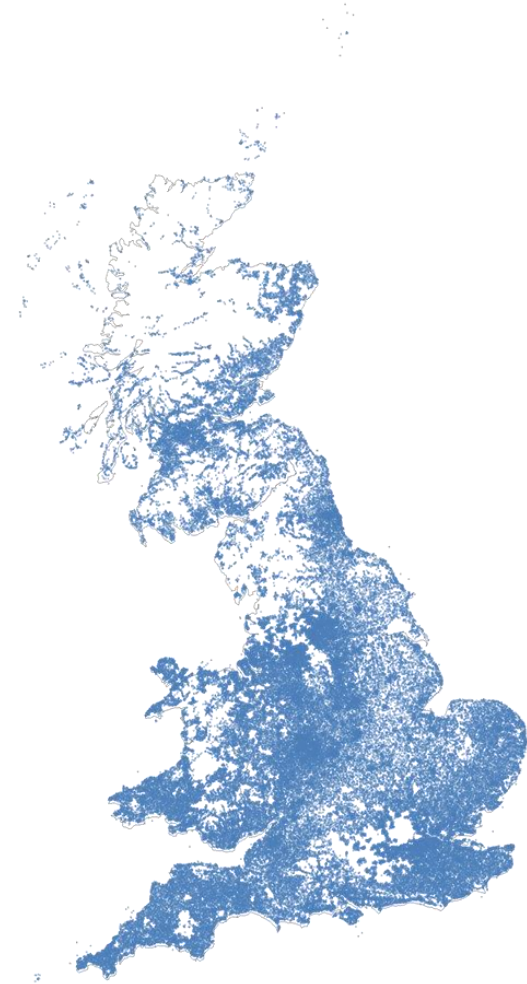
How it all works (continued)

- We provide and maintain an antenna (options in spectrum bands 696MHz to 960MHz and 1710MHz to 2690MHz) mounted on top of an Openreach pole.
- A powered MiiS cabinet will be built close to the pole and will provide space for you to install and connect your radio equipment. The cabinet will be connected to the antenna on the pole via Radio Frequency (RF) cables.
- The MiiS cabinet will support the provision of copper or fibre based access circuits from the Openreach portfolio only, in order for mobile traffic from your radio equipment to be carried back to your respective networks.
- The provision of an access circuit into a MiiS cabinet for this purpose is not included as part of the MiiS product and will need to be ordered and purchased separately.



Our coverage

- We support deployment on poles in England, Scotland and Wales. Northern Ireland is not included at present.
- A number of telegraph poles are available for MiiS deployment (subject to survey). You will be able to select your MiiS sites from our pole catalogue*.
- A mandatory MiiS survey is required before a site choice can be accepted.
- Each MiiS site can only support one radio antenna and associated cabinet (one MNO). Pole selection will be on a first come first served basis.



*The pole catalogue is available on the Openreach portal (login required).

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Product variants

You can choose between the following MiiS product variants, aimed at providing a choice of antennas to cover a range of scenarios.

The cabinet would remain the same in all variants:

- MiiS 2 sector (696MHz to 960MHz) 2 degree downtilt
- MiiS 2 sector (696MHz to 960MHz) 10 degree downtilt
- MiiS 2 sector (1710MHz to 2690MHz) 2 degree downtilt
- MiiS 2 sector (1710MHz to 2690MHz) 10 degree downtilt
- MiiS 3 sector (1710MHz to 2690MHz) 2 degree downtilt
- MiiS 3 sector (1710MHz to 2690MHz) 10 degree downtilt



Product features

Cabinet:

- Cabinet size is 1282mm high x 1230mm long x 500mm wide
- Environmentally controlled, initially designed to house radio base station equipment from NSN and Ericsson.
- Radio equipment 19inch rack space dimensions: 9U (height x 460mm depth), plus 3U (height x 390mm depth)
- 1U of space for backhaul equipment
- 240v to 48v DC Eltek Flatpack S power supply (2KW, 2 x 1.8KW modules)
- Supports up to 60W of total radio power (summed across carriers and bands) per antenna sector
- Access to alarm monitoring including heat, power and intruder alarms through connection of the cabinet alarm panel to your radio equipment
- Pre-provided copper pair terminated on an NTE1A to enable easy provision of a copper access circuit for use in backhaul of radio traffic.
- Cabinet locks and processes enabling access to both Openreach and your engineering workforces in a secure way.

Antenna:

- 2 and 3 sector antenna variants in spectrum bands 696MHz to 960MHz and 1710MHz to 2690MHz with fixed 2 degree or 10 degree downtilt options
- RF feeders (1/2 inch standard corrugated coaxial cables) running between the antenna at the top of the pole and the cabinet, terminated on combiners with 7/16inch DIN connectors
- No greater than 3dB radio frequency loss between the antenna and combiners in the cabinet (this loss is kept to a minimum by positioning the radio cabinet as close as possible to the antenna pole).

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A range of benefits

- A variety of product options to meet the specific needs and site requirements of you and your customers.
- Choose from a large estate of existing poles with an average height of 8 to 10 metres (subject to survey).
- Typically cheaper to deploy than traditional macro cell tower sites where smaller pockets of coverage are required.
- We plan, build and maintain site infrastructure inclusive of required planning permissions and power provision.
- By outsourcing your requirements to us we can ensure that everything is in the right place, at the right time.



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Get in touch...

- We are keen to hear from you about your requirements and to support any queries you may have about MiiS.
- To talk to one of our specialists get in touch with us via our online [contact form](#)
- You can also take a look at our range of information by visiting www.openreach.co.uk/miis



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