

Rural access

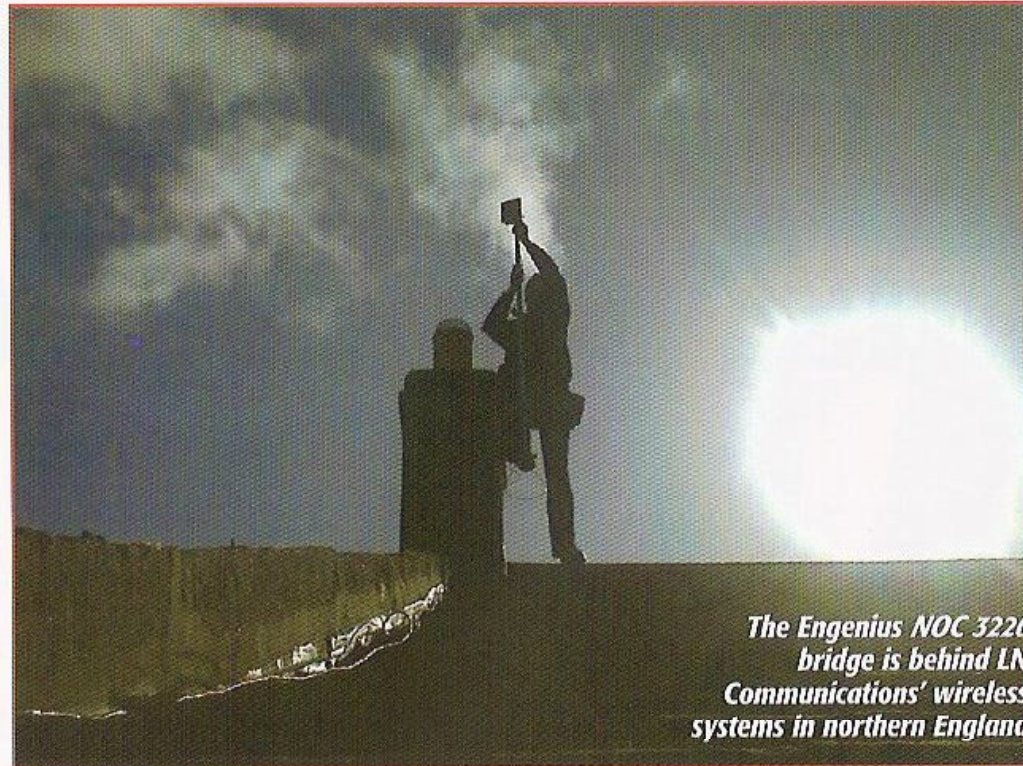
Wi-Fi Mesh brings flexible working to the rural north

Although broadband penetration is reaching levels of up to 90 per cent in some areas of the UK, many rural areas are still struggling to get internet connectivity.

It is predicted that the fastest growth in broadband penetration will occur in rural areas and tiny start-up company, LN Communications, has begun to solve this lack of connectivity for thousands of homes by deploying a Wi-Fi mesh network using DSL landlines and satellite systems.

Founded in 2004, LN Communications has set up 10 networks and manages 14 networks across 470 square kilometres in very rural areas of northern England. They include the North Yorkshire Moors, the Yorkshire Dales, a point-to-point network in Leeds city centre, and parts of Lincolnshire and Harrogate.

Co-founder Phil Whitley says he saw the opportunity for wireless communications in 2003 when his own village of Langtoft was unable to get broadband access. He established a small mesh network to bring wireless connectivity to homes in the village and his business has grown from there. As other towns expressed interest in a similar set-up, consultant Martyn Boswell was brought in to manage the technical side of the installations. Three years later, 150 external 2.4GHz



The Engenius NOC 3220 bridge is behind LN Communications' wireless systems in northern England

Engenius bridging mesh boxes have been installed, bringing high-speed internet access to rural homes and businesses. The Wi-Fi mesh infrastructure uses wireless links to connect access points in large open areas to provide secure, seamless access.

"Getting end-user connectivity right was incredibly important for us, as we don't have the resource to handle a large volume of technical queries," comments Boswell. "That's why we chose the Engenius NOC-3220 bridge."

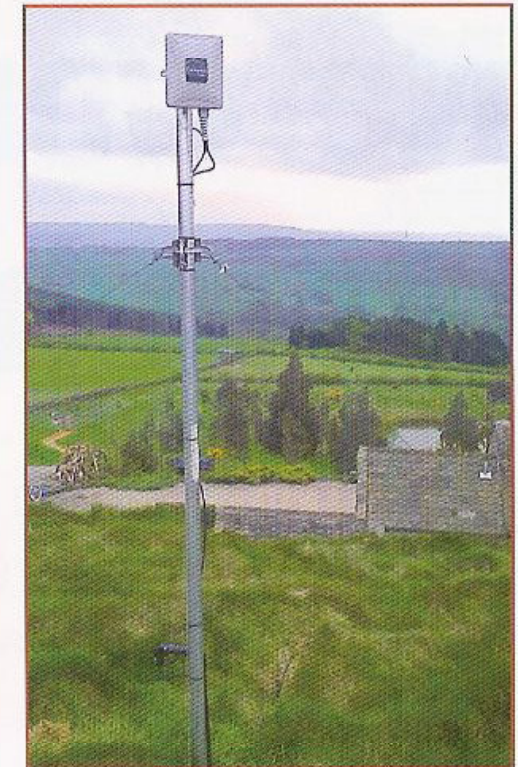
Boswell believes that the existing mesh networks have enabled over 25 per cent of his customers to adopt flexible working arrangements, something they could be waiting years for. He is also

excited about 5GHz products as they could offer more bandwidth with less interference to existing systems.

The road ahead

As these case studies show, innovation is far from lacking in the UK wireless market. From WiMAX and HSDPA combinations to flavours of Wi-Fi with incorporated mesh technology, there seems to be problem for every solution on the market at the moment.

HSDPA is a case in point. Whilst hype has helped sustained the mobile phone operators through the period between the launch of 3G networks and now, it looks like HSDPA might just be the



technology which finally brings their data offerings into play. Its use as a generic broadband data medium for subscribers might well be overshadowed by its deployment as a backhaul medium for applications on the move and in places where ADSL just can't reach.

But it's not just the brand new technologies that are making a splash. Wi-Fi – practically the 'old man' of the piece – is also evolving via mesh technology and "blanket" approaches to coverage which are being touted by some as the only way to bring wireless voice to large premises. Such market drivers are helping to stimulate a healthy UK market for wireless of all kinds.

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