

# Airband Delivers Ultra-Fast Broadband Across Dartmoor & Exmoor.

## The Overview

As part of a council-backed project, Airband delivered next generation broadband to under-connected homes and businesses across vast areas of rural Devon and Somerset. Airband turned to Cambium and achieved impressive reliability and superfast speeds of up to 30Mbps in challenging locations.

**Location:** Dartmoor & Exmoor

**Systems Installed:** Cambium PtP & PtMP ranges

**Integrator:** Airband Community Internet

**Customer:** Connecting Devon & Somerset (CDS)

## The Challenge

Rural Devon and Somerset were renowned as challenging locations for broadband capacity, often suffering from snails-pace upload and download speeds, if connected at all.

Connecting Devon and Somerset (CDS), a local government-led partnership, implemented a cost-efficient plan to bring superfast broadband to vast areas of the South of England.

Phase two of the two-part programme focused on harder to reach areas that weren't fibre compatible. Despite the geographic challenges, CDS aimed to offer broadband speeds that surpassed 24Mbps to all premises in these areas by 2020. For this specialist task, CDS chose Airband, a company renowned for its high-speed internet alternatives to fibre.

Airband implemented a fixed wireless superfast broadband network throughout both Exmoor and Dartmoor, two vast landscapes that had long proven difficult for connectivity.

With slow, or non-existent internet in the area, businesses, homes and the visiting public were left stranded. This was particularly problematic for businesses—without broadband, they were left behind in a world that was evolving in the digital age.

## The Solution

Airband began with the monumental task of site surveying both national parks, aiming for at least 85% of each area to be covered. With a combined area of over 1637 km<sup>2</sup>, this was an astronomical feat, exacerbated by the geographical problematic areas.

It became clear that to tackle both the long distance and difficult terrain issues, Airband needed a solution that was specially designed for rural high-speed internet.



“Having a good connection saves time and stress, which is so important when you’re running your own business.”

**Christine Malseed, Frenchbeer Farm, Dartmoor**

Airband contacted Purdicom, its long-trusted distributor, to aid them in designing a solution using the right products for this project. Airband explored the options and quickly decided on Cambium Networks. Cambium Networks was a clear choice as it specialised in long-range outdoor wireless network solutions, and had a well-earned reputation for delivering ultra-reliable connectivity in difficult environments.

Purdicom’s expertise and established relationship with Cambium Networks made the solution design and receipt of hardware both seamless and fast. Once Airband established a remote Point of Presence (POP) site, it utilised Cambium PtP 650 bridges and extended its presence over long distances to ensure the full breadth of each national park was covered. As the highest performing, most reliable sub-6 GHz PtP radio on the market, the PtP 650 ensured high capacity and throughput with dynamic spectrum optimisation for ultimate reliability over long distance.

Subsequently, Airband used Cambium PtMP 450i APs and provided cellularised 360-degree coverage from each nodal point. These nodal points provided business and structural areas

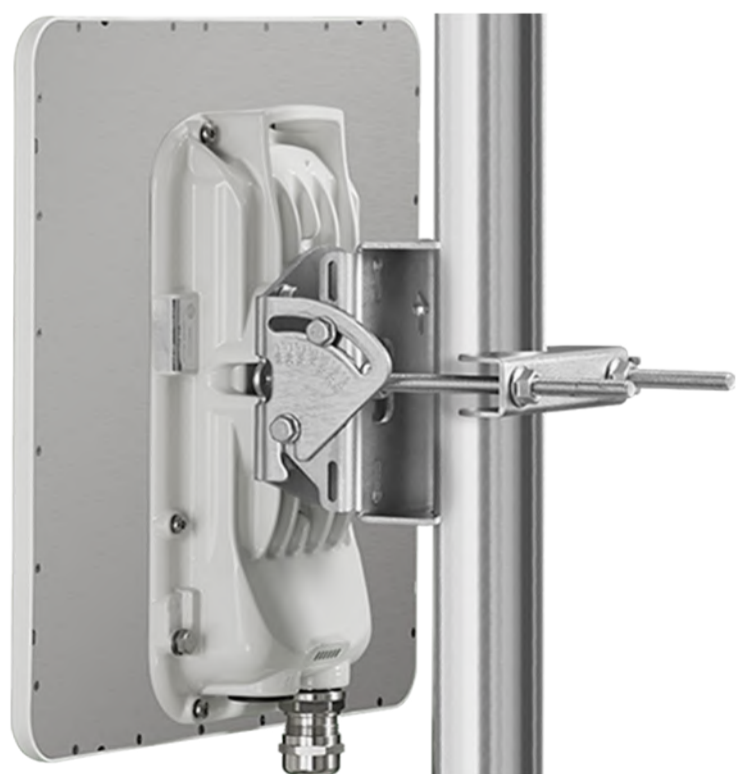


with connectivity over difficult topology. The ultra-wide band 450i features dynamic interference filtering, which ensured a smooth connection.

Airband also used a cnPilot r201P router at each location, which provided a WiFi connectivity to each premise. The cnPilot r201P also powered the subscriber module of the PtMP 450i wireless

“Purdicom have always been a pleasure to work with, because we know we can rely on them for fast shipping, advice and support in every project. Our dedicated account manager has made every interaction effortless.”

**Jon Parkes, Technical Manager at Airband**



solution, which provided a tidy installation with power requirements minimised.

As Airband provided end-to-end connectivity with Cambium Networks, it minimised the cost of a managed network with Cambium Networks cloud-based wireless network manager, cnMaestro. The ability to view detailed network analysis and real time monitoring, resulted in the ability to fault find, upgrade the network and apply configuration to any aspect of the network remotely and efficiently.

The network was designed for maximum efficiency and cost-effectiveness, so Airband built its own infrastructure instead of relying on expensive, pre-existing masts. As owner of the masts, it had the freedom to link a Cambium Cluster



Management Module 4 (CMM4), at each POP or nodal point, which not only powers up to 8 APs per location but provided Cambium GPS Synchronisation technology. The Cambium GPS synchronisation resulted in the entire network working as one, instead of as inefficient individual components. This unity resulted in an increase in spectral efficiency and maximised the effectiveness of the network.

## The Results

At present, over 5,800 premises have been connected by Airband over both national parks.

CDS initially wanted to offer 24Mbps download speeds to rural properties throughout the two large national parks. However, the combination of Airband's network service and the Cambium

Networks fixed wireless broadband solution, meant that Airband was able to supply impressive speeds of up to 30Mbps, and upload speeds of 9Mbps.

The evidence of a working, high-speed network resulted in a brilliant initial take up rate of 18%—of which 68% are residential and 32% business. This will continue to rise as more people choose to take advantage of the new service. This is evident with over 1700 registrations already.

After the success of the Dartmoor and Exmoor National Park deployments, Airband has embarked on a new council-backed project delivering access to 13,000 homes and business across North, Mid and West Devon, with new sites set to launch imminently.

Airband is the largest wireless internet service provider in the UK, specialising in reliable, high-speed rural broadband solutions that help reduce the UK's digital divide.

Find out more about Airband's products and services today.

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