Equine Stud Farm Enhances Security and Productivity

"The cost of the Starlink hardware and cnWave 60 GHz equipment is roughly 10% of the cost of an alternative fiber installation.

The only alternative solutions are 4G, which has become slower over time as contention has increased, to the point of being unusable. The remaining solution is wireless service, which we tested for one month and speeds were between 5-20 Mbps."

JONATHAN DENNIS,
BUSINESS OWNER

Overview

RAISING PRIZE WINNING ANIMALS is a science that requires detailed data. By definition, farms are in rural locations with very low population density. These remote locations are seldom served with high-speed connectivity as the cost of trenching fiber to a single location is prohibitive. But Jonathan Dennis, who runs Kerswell Shetlands, a 50-acre equine stud farm in rural Devon in the UK, embraces the latest wireless gigabit speed technology to have high speed data optimize his operation and provide a communications infrastructure for a video security system.

The Dennis family have bred miniature Shetland ponies for over 50 years with their stock being highly regarded throughout the world. The Shetland ponies are highly valuable and adding a network of high-definition security cameras gives peace of mind not only for the safeguarding of the equine stock but also against the theft of agricultural equipment.

To bring the connectivity to his remote farm, Jon has established a single Starlink satellite connection to one building. From that one location, he distributes the broadband connectivity to multiple key locations on the farm with cnWave 60 GHz millimeter wave fixed wireless solutions and multiple Wi-Fi 6 access points. The end result is a complete blanket of high-speed connectivity that connects sensors, video security cameras and workstations to create an efficient and secure operation.

One wireless infrastructure leveraged for many purposes:

- **Fast internet** connectivity for general business and personal use
- **Increased security** against theft of equine stock and equipment
- **Immediate care/assistance** during the foaling season

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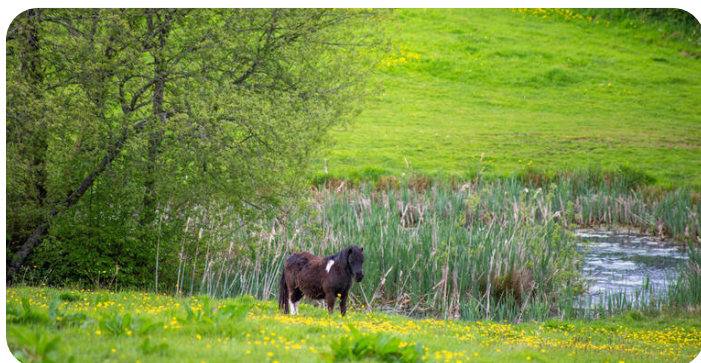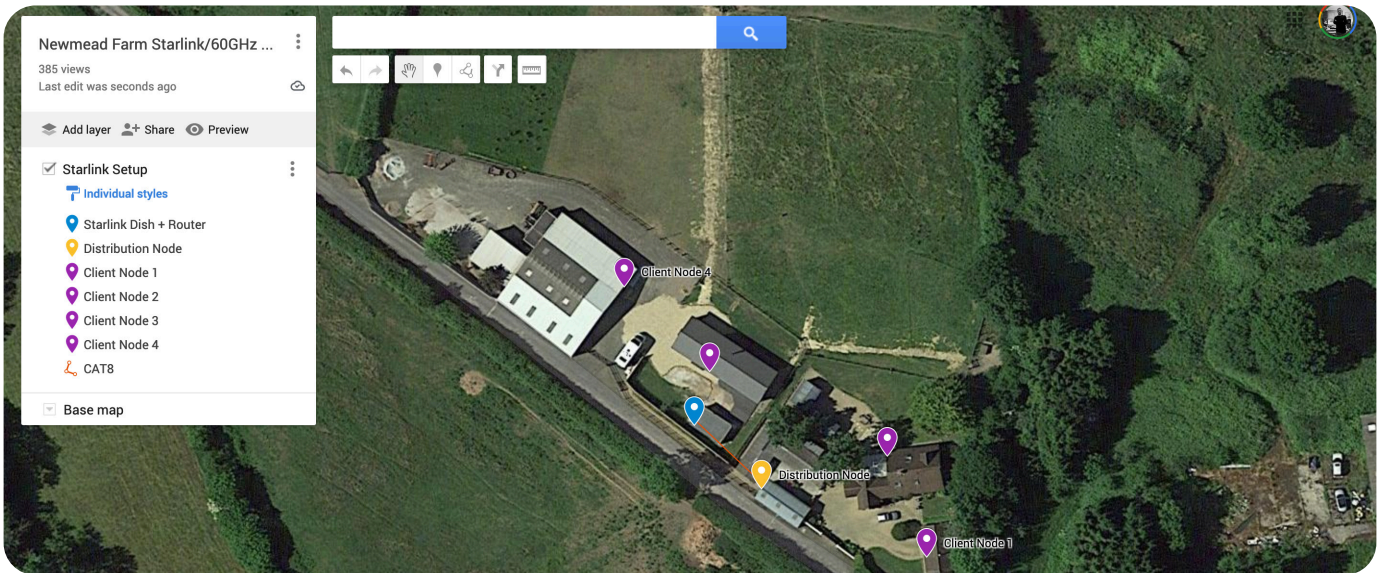
"The setup is extremely stable," says Jon. "I am getting great speeds of 289 Mbps at the XV2-2 access points in our kitchen and this is linked to one of the V1000 client nodes, pointing directly at the main distribution node."

"We have four client nodes connecting operations and the security camera network. The setup was super easy, and the end-user speeds are fantastic. This technology has transformed the farm, adding security which can be monitored remotely and alerts when a mare is about to give birth using wireless transmitters attached to the headcollar. We are now a highly sophisticated operation."

- Jane Dennis, Business Owner

Being present when a mare is about to give birth is extremely important as most issues will occur in the early stages of birth. The stud farm also uses a system which alerts users when a mare is or is about to give birth, via a small device which contains a gyroscope. When the mare goes down, the gyro is triggered and sends an alert to the staff. Currently, this is provided by way of radio transmitters, with the alerts being sent to a nearby pager. Jon is planning to take this a step further by adding a more advanced system, which will connect the alerts to the network via an application. This will allow the staff to see exactly which mare is foaling. Most importantly, the alert is not confined to the immediate location and is instead sent to any phone which has the application installed.

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Solution Technology

- **Fixed Wireless Broadband Infrastructure**

  - cnWave 60 GHz V5000 Distribution Node - The cnWave V5000 Distribution Node is featured with two sectors covering up to 280 degrees with beamforming. A single V5000 can connect up to four other distribution nodes or up to 30 client nodes. V5000 can be used for PTP, PMP and mesh configurations.

  - cnWave 60 GHz V1000 Client Node - The V1000 Client Node is featured with wide-range, 80° beamforming for easy installation. Powered by 802.3af PoE, V1000 supports up to 2 Gbps with 1 Gbps in the uplink direction and 1 Gbps in the downlink direction.

- **Outdoor Wi-Fi Access**

  - XV2-23T Outdoor Wi-Fi 6 Access Point - The XV2-23T outdoor 2×2 Wi-Fi 6 AP with long range internal antennas. Ideal for hospitality, education, municipal, transportation and logistics applications.

Results

"FORTUNATELY, THERE HAVE BEEN NO security events so far, but it is early days. However, the addition of the cameras has enabled us to view suspicious vehicles on a number of occasions," says Jonathan Dennis, business owner.

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"We live along a half-mile private country lane and until recently, fiber was a long way from the top of the lane, nearest to the main road. Fiber cables and hardware have recently been installed at the top of the lane. However, connection to the fiber service is not planned until next year. When the fiber service is live, we would need to pay to trench a fiber cable along the half-mile lane. The fiber is predicted to be up to 100-150 Mbps. We currently get a very steady 200 Mbps plus with Starlink and Cambium Networks."

- Jonathan Dennis, Business Owner

ONE Network for Enterprise

THE CAMBIUM ONE NETWORK helps simplify operations by providing one secure and converged IT experience, transforming the network from a collection of disparate parts into a unified architecture. The platform integrates Wi-Fi, switching, network security, SD-WAN and outdoor fixed wireless infrastructure into a single framework managed by cnMaestro™. Within this framework, administrators manage multiple network elements from edge to cloud with common visibility, policy, network security and troubleshooting workflows. This application-centric platform enables IT to automate the optimization of end user experiences.
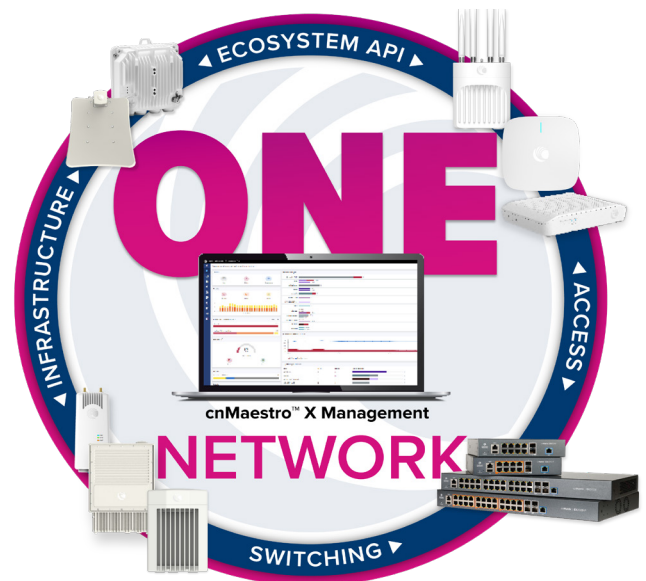
ABOUT CAMBIUM NETWORKS

Cambium Networks delivers wireless communications that work for businesses, communities and cities worldwide. Millions of our radios are deployed to connect people, places and things with a unified wireless fabric that spans multiple standards and frequencies of fixed wireless and Wi-Fi, all managed centrally via the cloud. Our multi-gigabit wireless fabric offers a compelling value proposition over traditional fiber and alternative wireless solutions. We work with our Cambium certified ConnectedPartners to deliver purpose-built networks for service provider, enterprise, industrial, and government connectivity solutions in urban, suburban, and rural environments, with wireless that just works.

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