Double the Data Transfer Rate at Long-Distance Cycling Event

> "To our customers, the linking of multiple sites is a seamless kind of magic. It runs in the background, and it just works."

AUSTIN BUTTON,
TECHNICIAN,
RENTA 2-WAY

Overview

WHAT WOULD YOU DO IF if you were responsible for providing communications services at a world-class cycling event spanning 171 kilometers? What would you do if, at a critical moment, communications dropped due to insufficient throughput? Renta 2-Way avoided this situation by deploying Cambium Networks' industrial IoT (IIoT) communications platform, cnReach™. The IIoT solution fit within their price range, operated in the same spectrum as their previous solution and provided significantly higher throughput.

The Challenge

BASED IN MELBOURNE, AUSTRALIA, Renta 2-Way designs, tailors and delivers communications equipment rentals for companies and events. From small school festivals to the Melbourne Cup Carnival, Renta 2-Way provides radiocommunications systems that run effortlessly in the background.

Renta 2-Way uses the 900 MHz unlicensed frequency band as most of their link paths are non-line of sight (NLOS). Previously, Renta 2-Way used 900 MHz industrial, scientific and medical (ISM) radios that did not have enough data throughput to meet growing requirements. They found communication drops during the research and development phase prior to a cycling event spanning 171 kilometers. As a result, Renta 2-Way needed to increase requirements for the upcoming event and expand the site. They decided to replace their existing system with one that offered high throughput and reliability in the same band. It was critical that this event had a reliable communications system to run efficiently and maintain participant safety.

Each cnReach N500 radio linked NXDN trunked repeater sites. Renta 2-Way added a fully featured IP console which operated at full capacity.

The Solution

WITH TWO cnReach N500 ISM RADIOS, Renta 2-Way linked two main sites which pass most of their traffic to meet increased requirements. The N500s were used to link next generation digital narrowband (NXDN) trunked repeater sites. Initial setup of the links was simple, and they seamlessly integrated into their managed IP network. Renta 2-Way expanded each radio site and added a fully featured IP console which operated at full capacity.

cnReach radios linked two main sites which passed the most traffic. All sites covered an area of 171 kilometers.
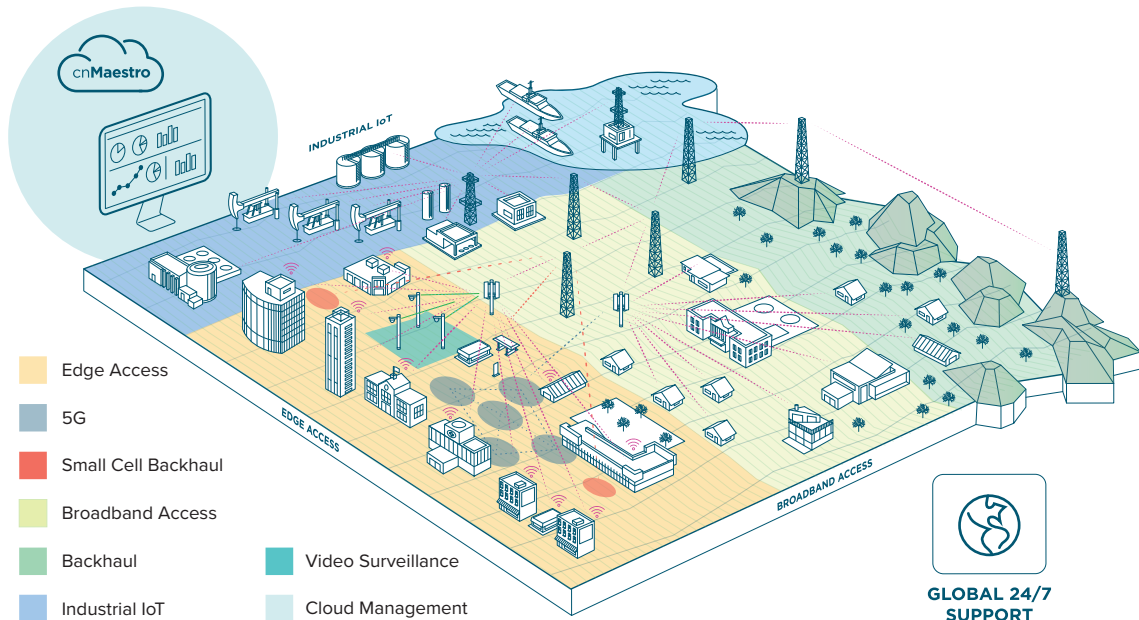
The Results

THE N500 LINKS SURPASSED THE THROUGHPUT of their previous equipment eight times over and handled the increased data demand with ease. After switching to Cambium Networks IIoT solutions, Renta 2-Way's service quality and subscriber satisfaction drastically improved. Over 400 subscriber units accessed the network during the cycling event and data transfer rates doubled. The speed and latency of the new system improved while read and write operations between sites quickened.

Specific results include:

8x throughput increase

2x data transfer rate

400+ subscriber units connected

- Edge Access
- 5G
- Small Cell Backhaul
- Broadband Access
- Backhaul
- Industrial IoT
- Video Surveillance
- Cloud Management

GLOBAL 24/7 SUPPORT

Cambium Networks' gigabit wireless solutions enable municipal, enterprise and service provider operators to tailor connectivity to meet exact requirements and grow as needs evolve.

Next Steps

RENTA 2-WAY INTENDS either to add another site or to increase capacity at each existing site. Since the N500s have proven successful, they plan to add more of these units to their network. They expect to use N500s in future events, some of which will require 1,000+ subscribers connected to the network.

Radio communications need to work right every time. For businesses that rely on making multiple critical connections at once, a missed communication can lead to chaos. Whether it's for event management, enterprise, schools or security, Cambium Networks' IIoT solutions enable a reliable and fully connected communications infrastructure.