

Digital Oil Field Streamlines Telecommunications With Fixed Wireless Access



Oil and gas connectivity solutions from Cambium Networks provide monitoring, measurement and analytics that optimize performance and efficiency. To achieve real value, an underlying communications infrastructure must be a highly reliable and resilient system.

Overview

FOR TODAY'S DIGITAL OIL FIELD, reliable telecommunications are a must. The consequences of losing connectivity are obstructed operations, which impacts revenue. To avoid this, one oil and gas company decided to ditch time-consuming, expensive manual installations and move toward an easily manageable, integrated fixed wireless access solution that would connect their network centers to remote oil pads.

The Challenge

DEMANDING, REMOTE GEOGRAPHIES often present as a challenge for connectivity. For one oil and gas company, their remote locations required dynamic connections to centralized networking centers. Connectivity solutions often needed to be added, changed or removed; however, they also needed to manually install subscriber modules (SM) to communicate with fixed wireless access points (AP). Manual installations meant field engineers spent more time on installations, management allocated more spending toward installations, and the company had to use expensive cellular networks.

But with wireless connectivity, their options expanded. They would be able to configure the deployment mechanism in advance, ensure that the SM always pointed to the desired AP, and allow their team to quickly deploy and connect an SM to an AP. All these benefits would allow their installation team to focus elsewhere. They hypothesized that if they adopted fixed wireless access, installation time to align an SM to an AP would take ten minutes or less.

The Solution

THE OIL AND GAS COMPANY decided to use Cambium Networks' Intelligent Positioner for Nomadic Wireless Broadband to connect Cambium Networks' PMP 450i Subscriber Module (SM) to the desired pre-configured access point (AP). All potential APs were set up in advance by the company, which will be available for connection on the Intelligent Positioners' GUI advanced webpage. The GUI allows for the pre-population of APs in the network, which permits the installation user to choose the correct pre-populated AP that they want to connect to. The alignment begins when the AP is selected.

WHY OIL AND GAS COMPANIES CHOOSE CAMBIUM NETWORKS

- The Intelligent Positioning Systems portfolio supports rapid deployment of broadband connectivity utilizing PMP/PTP 450i and PTP 670. Networks based on this equipment can be initially set up and periodically moved to new locations safely and quickly.
- The Intelligent Positioner for Nomadic Wireless Broadband scans the horizon and automatically locks onto the RF signal of the intended radio with minimal human intervention. Optical alignment occurs within minutes.



Each Intelligent Positioner has one PMP 450i SM mounted on it, reading connectivity information from the SM such as Received Signal Strength Identifiers (RSSI). It is also programmed with the desired AP. This allows the Intelligent Positioner to establish a connection with the AP within seven minutes or less. After everything is set up, wireless broadband connectivity is dynamically delivered to an oil pad or oil field and communicates back to their networking centers.



The Results

DYNAMIC SM CONNECTIVITY is provided to the oil pads and other destinations, providing wireless broadband. Now, all applications required at the oil pad can be run efficiently.

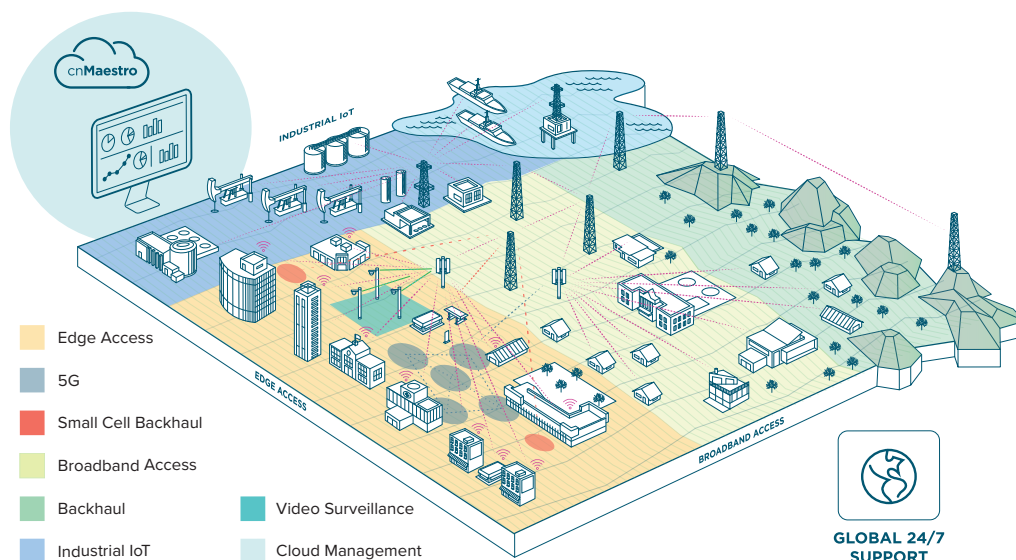
Cambium Networks' Intelligent Positioner is providing a simple, one-touch dynamic deployment solution. It offers nearly instantaneous connectivity from Cambium SMs to Cambium APs, among many possible APs on the oil pad.

Every two weeks, the oil and gas company deploys another piece of new equipment. SM installation time has decreased from two hours to mere minutes. This results in an estimated 50 hours of time saved yearly for their installation engineers. Quickly deployed wireless broadband connectivity is keeping the oil pad more connected than ever, allowing the company to undertake key services and operations that are key to facilitating their income.

Throughout 2021, the company plans to add more Intelligent Positioners to cover more of their oil and gas operations. One location plans to add eight additional units across four oil rigs.

APPLICATIONS

- Remote Facility Connectivity
- IT/OT Convergence
- Multipoint Transport
- Wi-Fi
- Multipoint SCADA
- Video Surveillance and Voice Services



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