



Khalda Petroleum Company: 13x Network Bandwidth Jump with Lower Costs



“Cambium Networks and their partner in Egypt, SYSTEL, are great companies to deal with in broadband microwave applications. Not only are their devices cost effective, but there is a range of wide frequencies to operate within, large, aggregated bandwidth and an easy-to-use wireless manager software for troubleshooting the system, enhancing the overall network connectivity. In summary, various generations of Cambium models meet our requirements for applications and cost. We’re grateful for the support given from SYSTEL and the Cambium Networks team.”

DR. ENG. MOSAD BADR,
FIELD TELECOM GEN. MGR.
KHALDA PETROLEUM COMPANY

Overview

THE WESTERN DESERT OF EGYPT, a desolate and uninhabited region except for a series of oases, spans an area of 680,650 km², accounting for two-thirds of Egypt's total land area. Since 1910, its expansive fossil fuel reserves have been actively utilized. Today, efficient and secure operations require constant digital monitoring and communications from the most remote well to central headquarters. Khalda Petroleum Company operates 29 fields in the Western Desert equipped with dependable voice and data communication systems that connect CCTV cameras and enable remote monitoring and control capabilities for wells using SCADA and DCS systems. The connectivity of up to 54 Mbps to all these sites has enhanced operational efficiency while simultaneously reducing network cost.



The Challenge

Fulfilling the diverse needs of applications involving voice and data transmission, offering a maximum data rate of 54 Mbps

KHALDA PETROLEUM COMPANY, a prominent player in Egypt's oil and gas industry, has been active in the Western Desert for several years. The company previously relied on a microwave network operating at a frequency range of 1.5 GHz to 2.5 GHz, offering a capacity of 4x2 Mbps. Although the network was reliable, it proved insufficient to meet the current connectivity demands.

Additionally, Khalda Petroleum operated a traditional digital microwave system, enabling voice transmission and supporting low data rates at 64 Kbps in a point-to-multipoint configuration. However, due to limited bandwidth, high costs, and low data transmission rates, the existing network fell short of their requirements

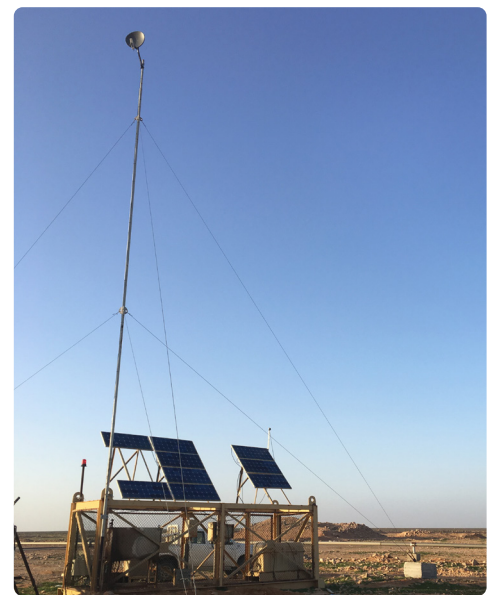
To address this, Khalda Petroleum undertook an upgrade of their network infrastructure in the vast and remote terrain. They adopted a range of technologies, including a combination of Point-to-Point and Point-to-Multipoint links, now capable of delivering up to 54 Mbps service, representing a significant 13-fold improvement in bandwidth. Surprisingly, despite this substantial increase, the cost of operating the network has decreased.

The Solution

Enabling voice and data transmission, as well as CCTV surveillance capabilities

THE UPGRADE initiative implemented a range of Cambium Networks' PTP backhauling models, including PTP 300, PTP 500, PTP 650, and the recent addition of PTP 670 backhaul. These models replaced older products and provided coverage for all field sites. The extended PTP 650 and PTP 670 backhauling technologies were employed to cover over 20 main field sites, while PMP 450 and PMP 450i were utilized to support voice and data transmission, along with CCTV surveillance, at 9 field sites. The communication infrastructure for remote areas and drilling rigs was also enhanced using PMP 450 and PMP 450i.

Khaldia Petroleum initially deployed the PMP 450 in 2015 for voice and data transmission at the Salam Base field, specifically for drilling rigs. Later, it was employed for SCADA transmission of gas wells, enabling remote monitoring and control of gas well data from the central DCS control room. The project was initiated at the Tarek Field, which is one of Khaldia Petroleum Company's largest locations housing more than 40 gas wells. Since the gas industry involves inherent risks, it was crucial to monitor and control the gas wells through the DCS system at the control room using SCADA. Notably, one advantage of PTP 650 and PTP 670 technology is the presence of main and AUX Ethernet ports, allowing the utilization of two separate network connections on the same link, thereby saving the cost of installing additional links.



SOLUTION TECHNOLOGY

PTP 300, 500, 650, 670

PMP 450 AND 450i

“The variety of models offered by Cambium has given us the ability to choose between them in line with our business requirements. The geographical nature of each site differs in terms of distances and terrain, and the volume of data transfers varies in each site according to its business requirements. All of this has helped us to implement a large wireless network that extends over vast distances in Khaldia Petroleum fields in the Western Desert. They can be relied upon to transfer data to each site, to achieve the necessary connection between different LANs and SCADA systems for wells and different production plants, CCTV surveillance systems with cameras on the main roads, and interconnection between different voice communications systems.”

Eng. Hossam Abou Shady, Field Telecom Gen. Mgr., Khaldia Petroleum Company

And Now...

KHALDA PETROLEUM intends to expand the usage of PTP and PMP Cambium Networks deployments for their upcoming Oil SCADA project. Furthermore, the company is considering the implementation of Cambium Networks Wi-Fi and switches at all sites. To facilitate project design, programming and installation, they plan to utilize the user-friendly LINKPlanner tool. Additionally, they aim to leverage the wireless manager program to enhance network connectivity by troubleshooting any issues that may arise.



ABOUT CAMBIUM NETWORKS

[Cambium Networks](https://www.cambiumnetworks.com) enables service providers, enterprises, industrial organizations, and governments to deliver exceptional digital experiences and device connectivity with compelling economics. Our ONE Network platform simplifies management of Cambium Networks' wired and wireless broadband and network edge technologies. Our customers can focus more resources on managing their business rather than the network. We deliver connectivity that just works.

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