

Case Study

Microwave Solutions for the Energy Industry

Long Distance Microwave Transmission Solutions for Oil and Gas Exploration

The Scenario

The customer is engaged in major oil exploration and extraction activities off the African coast. In particular, it has a network of four oil platforms, coordinated from a central monitoring station on a small island off the mainland. Real-time voice and data communications between platforms and the central monitoring station was essential for continued efficiency in operations.



Central Monitoring Station (top) & Oil Platform (bottom)

The existing WIMAX backhaul communications network was proving to be ineffective with frequent downtime (partially) caused by strong surface reflection from the sea, and insufficient bandwidth to carry the traffic which included voice, image, video and other systems data.

The Solution

After analysis of the customer requirements and the applications, Comba supplied its native IP microwave transmission solution. Suitable for IP transmission, **Comba's NIX Series** links enabled wireless Ethernet backhaul from the monitor center in the island to the 4 remote oil platforms.



Communication Path of Monitoring Center & Platforms

And the microwave system configuration was 1+1 Space Diversity, which is especially suitable in overcoming interference issues, improving bandwidth and improving overall quality.

Solution Details:

- **Equipment Used:** 10 hops of native IP microwave system
- **Link Distance:** 41km max
- **Capacity:** 40Mbps IP
- **Frequency:** 13GHz, 18GHz, 23 GHz
- **Power Consumption:** ≤40W



The Customer

Headquartered in France, the customer is multinational oil and gas company and one of the top tier oil companies in the world. Its businesses cover the entire oil and gas chain, from crude oil and natural gas exploration and production to power generation, transportation, refining, petroleum product marketing, and international crude oil and product trading.

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Comba's Digital Microwave Solutions

Comba's Digital Microwave System allows transmission links to be established rapidly and easily to meet a variety of transmission needs, brings cost savings and helps rapid network rollout.



(L-R, Top): Outdoor Unit, Microwave Antenna
(Bottom): Indoor Unit

Comba's *microwave system* comprises of antenna, outdoor unit (ODU), indoor unit (IDU) and network monitoring system (NMS). Modular designs enable easy system updating and upgrading. The system meets carrier grade standards for reliability, quality and environmental compliance. It forms a cost effective, highly competitive point-to-point microwave radio system. Common applications include access, backhaul and trunk infrastructure.

The Results

The 1+1 space diversity of the native IP system effectively overcomes sea surface reflection issues. System capacity of up to 40Mbps was more than sufficient for data requirements.

With a system reliability of 99.999%, the customer will only experience a downtime of 5 minutes or less per annum.

In measuring Comba Telecom's native IP system against comparable systems, superior performance is provided with an incremental 3dB gain and improved receiver sensitivity.

The end result is the customer is supplied with a robust system to ensure constant communications between the platforms and the monitoring island at all times to ensure continued, trouble-free operations.



Comba equipment installed on customer site

Key Success Factors:

- Robust wireless Ethernet backhaul services
- Native IP microwave transmission
- Cost-effective and rapid deployment
- Full services (through local partner)

Comba Products & Services

- Comba NIX Series Native IP Microwave System
- Consultancy & Project Management
- Installation & Commissioning
- Post Installation Support

For more information, contact your Comba representative, or visit: <http://www.comba-telecom.com>

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