



Case Study - RedMAX™ Connects Remote Oil Rigs for Pemex



"After a thorough review of available technologies, Redline's RedMAX equipment proved to be the best solution for providing the reliable, secure, high-throughput links for this challenging network deployment."

John Oliver
AlanDick Mexico

The Challenge:

Pemex, one of the largest resource companies in the world, operates a cluster of 10 off-shore oil rig platforms in the Gulf of Mexico. Pemex needed to establish a robust and reliable network capable of seamlessly connecting multiple, remote locations to each other and to its land-based facilities. The network also needed to maintain superior performance levels under challenging environmental conditions.

Solution:

AlanDick Group Mexico, a leading Systems Integrator chosen by Pemex to manage its networking project, selected Redline's high performance RedMAX™ solutions for its carrier-grade point to multipoint WiMAX network.

Result:

The successful deployment represents one of the world's first multipoint WiMAX networks at sea connecting multiple oil production platforms located up to 16kms (10 miles) offshore and spanning an average of 10kms (6 miles) between each platform. The RedMAX network cost-effectively delivers the critical, real time voice, video and data communications Pemex needed to significantly improve its operational efficiency.

Redline's RedMAX WiMAX systems help Pemex improve communications

Reliable, instant connectivity is vital to oil and gas producers. Disruptions or delays in critical communications often prove extremely costly and can even pose danger to people, equipment and operations. Connecting multiple, disparate oil-drilling platforms and operations requires an advanced network that cost-effectively delivers high performance voice, video and data services under adverse and sometimes hostile environmental conditions.

Redline's RedMAX™ family of products deliver the high performance, reliable and flexible communications solutions that Pemex needed to overcome the performance limitations and high cost associated with other technologies. Pemex needed a network capable of delivering reliable, high-speed, data, voice and video connectivity needed to establish and maintain critical, remote links over large distances. Lost connectivity, productivity and revenue are now a thing of the past with Redline's WiMAX solutions that can deliver wireless broadband connectivity and the advanced services needed to seamlessly bridge land-based and remote off shore facilities.

Wireless broadband solutions enable the cost-effective delivery of mission-critical information including oil rig equipment information, changing weather conditions and other delay-sensitive data. Health and Safety platform and operations integrity inspections and work progress can now be monitored via high resolution video with images instantly sent over the RedMAX wireless network. This significantly reduces onsite and labor-intensive inspections costs.

RedMAX gives resource companies the ability to connect multiple sites using the most advanced wireless broadband products available today. Now they have what they need to rapidly deploy and manage their wireless broadband service and the flexibility to evolve it to include nomadic, portable and fully mobile components that connect the oil rig platforms and the people onboard to all areas of their business.



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Strategic and Operational Benefits:

- Cost-effectively connects multiple remote locations to corporate, land-based facilities
- Delivers time-sensitive voice, video and security applications
- Monitors operations in real-time
- Overcomes wind, humidity and changing path conditions to deliver disruption-free broadband connectivity
- Reduce expensive, labour-intensive activities to improve operational efficiency
- Ensure rapid return on investment
- Quick to install and easy to manage
- Rugged design withstands harsh environmental conditions

Available via:

How it Works

Wireless network deployments over water must be designed to overcome propagation challenges that can dramatically affect radio link reliability. The nature of the terrain, including fluctuating water levels and its reflections, coupled with changing meteorological conditions such as high humidity, temperature and barometric pressure can severely attenuate the radio signal. Redline's 3.4 GHz RedMAX WiMAX network uses complete redundancy components and systems at all points in the network to minimize environmental interference that could significantly impact data throughput and link reliability.

The 10 oil production platforms owned by Pemex, one of Mexico's major companies, are located up to 16kms (10 miles) offshore from Ciudad del Carmen, Campeche and span an average of 10kms (6 miles) between each platform. Redline's RedMAX products will support several different data modulation schemes to deliver an unmatched combination of range, capacity, security, and reliability, even in very challenging conditions like those found in the Gulf of Mexico.

The main platform will connect directly to the Internet using a high-bandwidth, wired connection which then connects to RedMAX outdoor subscriber units (SU-O) on each platform using a line-of-sight, microwave link. The data is back-hauled using Redline's proven OFDM, WiMAX-certified solutions.

The WiMAX system encrypts traffic using AES (Advanced Encryption Standard) for securing its transmission over the air and delivers toll-quality VoIP while maintaining best effort traffic such as e-mail and web browsing at the same time.

RedMAX proved to be the ideal solution for this off-shore oil rig deployment where the distances and variable, often hostile, weather conditions tested the performance limitations of the network communications technology.



Redline's comprehensive family of WiMAX Forum Certified™ solutions includes the RedMAX SU-I and SU-O indoor and outdoor subscriber units, and the AN-100U base station

About Redline Communications

Redline Communications is the leading provider of standards-based wireless broadband solutions. Redline's RedMAX™ WiMAX Forum Certified™ systems and award-winning RedCONNEX™ family of broadband wireless infrastructure products enable service providers and other network operators to cost-effectively deliver high-bandwidth services including voice, video and data communications.

Redline is committed to maintaining its wireless industry leadership with the continued development of WiMAX and other advanced wireless broadband products. With more than 35,000 installations in 75 countries, and a global network of over 100 partners, Redline's experience and expertise helps service providers, enterprises and government organizations roll out the services and applications that drive their business forward. For more information, visit www.redlinecommunications.com.



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