

Shengli Petroleum, China



Shengli



North America



Central America



Latin America



Western Europe



Eastern Europe



Asia Pacific



Northern Africa



Southern Africa



Offshore

Wireless Broadband: Making Waves Across China's Yellow River

The oil industry is one of the most sophisticated and carefully orchestrated industries in the world requiring advanced communications to maximise production.

Shengli Petroleum is one of China's largest state-owned petroleum company with oil platforms spanning some 44,000 kilometers of the vast Yellow River Delta and major offices in 8 cities in the region.

About Shengli Petroleum

- State-owned oil enterprise
- Second largest oil producing base in China

The Challenge

- To deploy complementary wireless equipment to supplement the company's existing voice/data network
- To ensure that this network can cover Shengli's entire operation - which is spread over 44,000 square kilometers
- To enable information to be easily transferred and shared within remote oil fields and from those fields to the central office

The Solution

- A wireless broadband network built using equipment from Alvarion's BreezeNET® and BreezeACCESS® VL product suites

The Result

- Alvarion solution deployed quickly and effectively
- Equipment functions despite difficult terrain
- Areas previously outside of the network loop now connected
- Reduced lifting costs per barrel.
- Network uptime above 99.99%

For years, Shengli had relied on a satellite phone system to communicate with its oil platforms, but the platforms needed to be able to send and receive data to maintain efficient production at peak performance levels.

It was not cost effective to build a fiber network for full coverage for a number of reasons. Shengli's operation is vast - to build a fiber network would be expensive and difficult. The terrain is rough and wide areas of water needed to be traversed. And so Shengli decided to build a wireless broadband network to provide data services between its oil platforms and offices.

Capable of providing both voice and data services, wireless broadband connectivity is proving to be an extremely affordable alternative for all kinds of industrial applications worldwide. Wireless networks require little initial capital and have low network operating costs. They can be built quickly and affordably, and they allow for modular, rapid expansion as the customers' needs increase.

The Alvarion Network

After reviewing various equipment suppliers, Shengli selected Alvarion to deploy a network to provide voice and data services to all of its oil platforms.

Alvarion's BreezeNET DS.11 using the 2.4 GHz spectrum was Shengli's product of choice. BreezeNET is designed for maximum performance, security and reliability and delivering high-speed data rates. BreezeNET's distinctive antenna diversity technology ensures robust and high quality reception, making it ideal for the vast and difficult topography in the Yellow River Delta.



Customer type: Oil producer

Country / Region: China, APAC

Solution: BreezeNET® B, DS.11 and BreezeACCESS® VL

Application: Voice, data and video



Network redundancy is essential to Shengli, as mission critical communication disruptions result in loss of production. For this reason, Shengli insisted on building a network that would provide at least 99.99% uptime. Alvarion's solution provides constant redundancy in the network - for both base stations and subscriber units.

This network is used in two ways:

It provides coverage throughout Shengli's oilfields covering every unit of prospecting, production, R&D and administration in the company's vast operation which is dispersed over 44,000 square kilometers. Shengli's central office, located at Dongying city in Shangdong province, can now communicate remotely with every single location.

In addition, wireless bridging provides a link from each platform to its pump house to allow the display and entry of critical data acquired at the drills.

Network expansion

The Alvarion network proved so successful that in 2005 Shengli decided to expand the network to provide video surveillance. Equipment from Alvarion's BreezeACCESS VL product line operating in the 5.8 GHz spectrum was chosen. This provides a longer range of up to 30 kilometers and larger capacity of up to 54 Mbps.

Alvarion's BreezeACCESS equipment is IP67 certified. This means that it can operate reliably in extremely harsh environments and is protected from dust and water immersion.

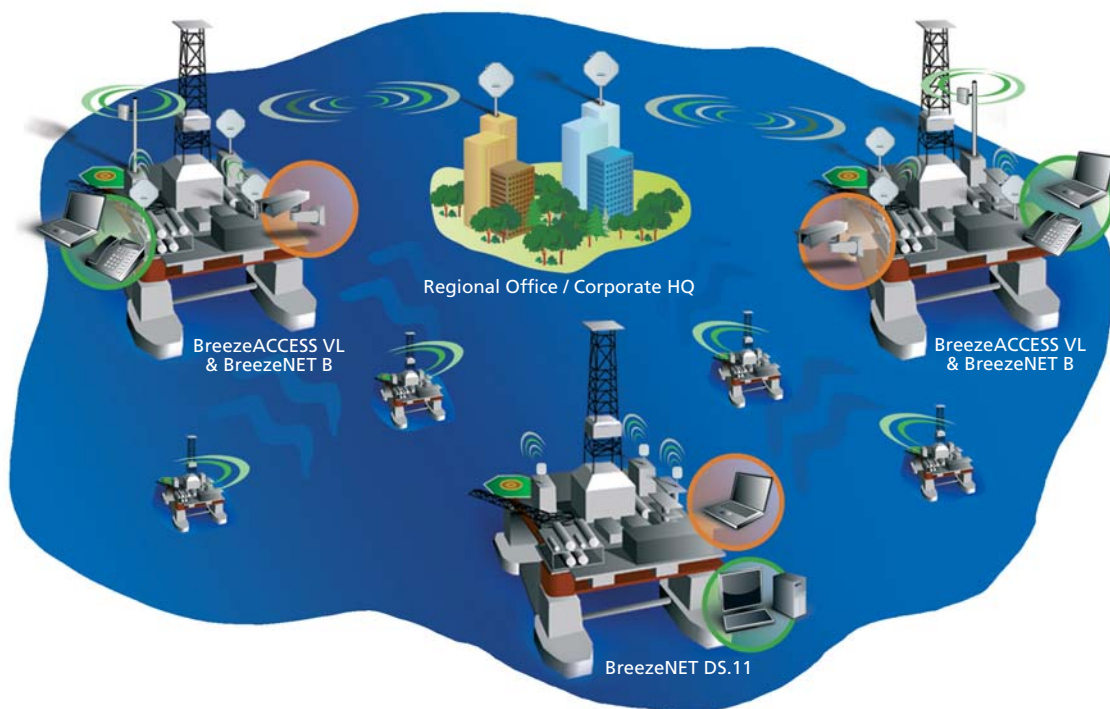
BreezeACCESS also has built-in AES encryption, VLAN support and a secure network management system which make it ideal for the security conscious oil industry.

To date, 40 BreezeACCESS VL base stations and 200 CPEs have been installed by Shengli.

These operate alongside the existing 2.4GHz base stations and the same management system is used for both networks.

In addition, Shengli deployed an additional 10 pairs of BreezeNET B for point-to-point backhauling of the BreezeACCESS VL network.

Although the networks are mainly used for data transmission, some offices use it for VoIP services which can connect to Shengli's own PSTN system. Using software version 4.0, BreezeACCESS VL can support over 200 simultaneous phone calls, while providing excellent voice quality.



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