



## ***Vessel-to-Vessel Broadband for Leading Geophysical Services Company Case Study***

### ***Background***

An oil and gas service provider performing deep water sub-ocean surface imaging required critical vessel-to-vessel broadband communications for a new fleet configuration employing full-azimuth (FAZ) Dual Coil Shooting. This new mapping technology provides greater accuracy of survey data in the most difficult environments by providing improved azimuthal coverage and a higher signal-to-noise ratio. This first of its' kind multi-client FAZ survey technology demanded connectivity beyond the reach of their existing wireless network. The service provider uses wireless network connectivity to control and synchronize production activity throughout the fleet as well as provide inter-vessel data transfers.

### ***Customer Challenge***

Traditionally deep water surveys have been limited by ship distances of less than 9 km and low data rates of 1.5Mbps or less. The new FAZ Dual Coil Shooting configuration required that connectivity be maintained with 100% uptime over distances of 12-20km with available bandwidth of 5-10Mbps all while the vessels sailed in a circular pattern. Increasing the distance between vessels allows for greater resolution of data and mapping of increased ocean depths.

### ***BATS Solution***

In collaboration with the customer, BATS designed and installed a triple redundant mesh network solution that exceeded the requirements of the geophysical services company. BATS solution utilized the 5.8GHz point-to-point (Redline Communications AN80i) wireless broadband radio along with the Broadband Antenna Tracking System's BTS-3300 self-aligning antenna and tracking system. This solution was able to maintain wireless links at distance in excess of 30 km providing from 10-18Mbps of throughput on each link. All four vessels in the fleet were configured with three BTS-3300 systems connecting each vessel to the others in a mesh topology. This topology created the zero downtime resiliencies required in this demanding environment, as well as delivering available aggregate speeds of up to 54Mbps between vessels.

## ***The Technology Behind BATS***

The BATS technology is agnostic as to frequency and broadband vendor radio equipment. The technology can automatically reposition the directional broadband antenna mounted on a vessel to maintain a wireless broadband network session. This unique tracking capability is an industry-first feature that allows moving vehicles to obtain real-time access to resources inherent to broadband communications. The BATS system allows for rapid deployment of wireless networks as well as the geographic extension of a current network for customers who have limited broadband access or rely on expensive, low-bandwidth satellite communications.

## ***Maritime Deployments***

Wireless communications over water have unique challenges. Water can adversely reflect radio waves and can have a direct impact on reliability. Environment conditions such as saltwater, high humidity, temperature and barometric pressures can radically attenuate radio signals.

## ***About Broadband Antenna Tracking Systems***

Broadband Antenna Tracking Systems (BATS) provides a proprietary software and hardware platform that locates, locks and tracks wireless broadband communication access points. Our products are designed for quick deploy communications centers and mobile-to-fixed and mobile-to-mobile communications.

For more information, please visit [www.batswireless.com](http://www.batswireless.com).

## ***BATS System Features***

- Unique tracking feature allows access to broadband communications from mobile units
- Enables rapid deployment or extension of a wireless network
- Easy deployment and operation
- Gyro-Stabilizer option for mobile applications
- Remote management via IP
- Accuracy within .05\* of pinpoint
- Significant cost savings through elimination of manual redirection
- Designed to withstand the harshest environments on land, sea or air
- Automatic failover feature
- Continuous optimizations for maximum throughput
- Technology agnostic, works with any radio and frequency
- Supports broadband communications including data, Voice over Internet Protocol (VoIP) and streaming video

