



RigStat LP

BGAN case study



BGAN provides 'eyes and ears' for oil rigs

➔ **BGAN is the only mobile satellite service to offer broadband data with simultaneous voice, through a single, truly portable device on a global basis. It is also the first service to offer guaranteed data rates on demand – up to 256kbps – for live video and videoconferencing. Although designed for mobile use on land, it performs reliably as a fixed satellite link in harsh maritime environments.**

RigStat LP makes systems that are the 'eyes and ears' for oil rigs and terminals, keeping a watch over them even when they are unmanned during hurricanes. The Texas-based company started in 2004 and has conducted most of its business to date in the Gulf of Mexico (GoM). However, as its reputation grows, it is finding customers in South America, Australia and other regions. RigStat is now using Inmarsat BGAN to provide an always-on connection for some of its installations, sending data every hour over the Inmarsat network.

RigStat Pro is a patented system that collects data from a variety of sensors on submersible, semi-submersible, jack-up rigs, and oil terminals. It transmits data regularly to on-shore web portals, where technicians can use the information to monitor the status of the asset. Although its reputation is based on monitoring during extreme weather, it has many applications for year-round operation in normal conditions, such as checking on a rig's location in relation to nearby vessels and other platforms.

The system first proved its worth in the GoM in 2005 during Hurricanes Katrina and Rita – two of the most destructive weather

events ever – which caused several rigs to break from their moorings. An early version of RigStat was installed on a rig there, and it performed well, giving an almost real-time view of the location, wind speed and motion. After that, word began to spread within the oil business.

RigStat is one of the first systems to offer this level of detailed monitoring from unmanned platforms during extreme weather, but why is that important? It is standard safety practice for oil companies to evacuate their rigs when a hurricane is about to hit, first switching off all systems and main power supplies and taking a GPS fix on the position of the rig. However, sometimes this is not enough. After Hurricane Andrew in 2004, one company flew over the last known location of its rig and saw that it had gone. It took the company more than a day to find the rig about 70 miles from its former location, and then about a week to tow it back into position.

It costs a lot of money to retrieve, repair and re-moor a storm-damaged oil rig, and the expense of these operations in lost revenue could be \$300,000-\$400,000 a day. Any system that can significantly reduce these costs by communicating the precise status and location of a rig during and after a hurricane is highly valuable to energy companies. It might not prevent damage happening, but it will help them see what equipment and people to deploy after the storm in order to progress with remedial work as quickly and cost-effectively as possible.

Applications

Since early 2007, RigStat has been using Thrane & Thrane Explorer 500 BGAN terminals to provide an always-on data link from two non-floating customer installations in the GoM. One is on a jack-up rig owned by a major drilling company in the Bay of Campeche and the other is on one of the largest super-tanker terminals in the region, off the coast from New Orleans. To enable them to function in the most extreme maritime conditions, the pole-mounted BGAN terminals are permanently housed in purpose-built protective cases. Both installations collect location, motion and weather data every one to five seconds. The terminal installation also sends images of both the platform and the super tankers using it.

Before adopting BGAN, RigStat used non-Inmarsat terminals to send data via Low-Earth-Orbit (LEO) satellites. However, the LEOs only supported low bit-rate 'switched' connections, which took a long time to transfer data and could be unreliable. They were also charged on a cost-per-minute basis and so were expensive to use.

After Inmarsat launched BGAN in 2005, RigStat President Russ Roy quickly saw the potential for his company. He liked the broadband data rates and the fact that BGAN operates on geostationary satellites (the Inmarsat-4s). He also thought the terminals were very competitively priced and welcomed the fact that customers only pay for the data they send, not for how long they are connected. BGAN's two-way data capability gives RigStat's engineers the capacity to communicate with RigStat installations from the shore.

Another key consideration was BGAN's low power requirements (0.8W standby and 14W transmit). During a hurricane, RigStat may have to operate on battery power for 8 to 14 days, so it is essential that the whole system, including the satellite component, consumes minimum power.

Key benefits

- Rugged, compact, affordable terminals, which can be easily adapted to permanent operation in the most extreme maritime environments
- Always-on background data capability (Standard IP) and pay-per-megabyte pricing means that the customer only pays for data sent
- Genuine broadband data rates enable images and data to be sent more quickly
- Compatibility with RigStat's system architecture and sensors
- Low power consumption means the terminals can run for days off the external RigStat batteries



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Customer feedback

'Inmarsat has a history of reliability and a reputation for providing high-quality data, both of which we value highly.'

'We estimate our customers can save between \$3,500 and \$5,000 over a year when using BGAN to transmit hourly data from RigStat, compared to the cost of using LEO satellites systems for the same purpose. Effectively that pays for the BGAN terminal.'

'The fact that Inmarsat is a global system means we can present it as a uniform solution around the world for our background data service, so that helps us to deploy our patented solution on a global basis.'

Russ Roy, President, RigStat LP

'RigStat's use of BGAN in a challenging maritime environment is indicative of the reliability and flexibility of the service and the ruggedness of the Thrane & Thrane terminals supplied by Delta Wave. Russ Roy and his team were quick to see the potential of this important new technology from Inmarsat.'

Tom Clark CEO/President, Delta Wave Communications Inc.

About Thrane and Thrane

Thrane & Thrane is a leading manufacturer of equipment and systems for global mobile communication based on sophisticated satellite and radio technology. Founded in 1981, the company has established a strong position within global mobile communication solutions based on the Inmarsat system. The company's head office is in Denmark just north of Copenhagen.

How to buy BGAN

BGAN is available through select Inmarsat distribution partners and service providers in more than 80 countries. Visit our website to find the right partner for your organisation.