

Oil & Gas Network

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A new generation of technology providing true global coverage

By Joni Evans

On land, in the air or at sea, Inmarsat effectively brings communication tools to people working in the most remote or challenging corners of the world. Poised at the tipping point for a new generation of technology, Inmarsat is the world's leading provider of mobile satellite communications.

Primarily a satellite operator, Inmarsat boasts a constellation of 11 satellites positioned roughly 36,000 km from the earth. The cornerstones of the Inmarsat satellite network are three Inmarsat-4 (I-4) satellites. The I-4s are the most advanced and sophisticated satellites providing the world's only mobile broadband network covering the entire globe.

Three satellites are required to span the globe. Two I-4s were launched in 2005, while the third was launched in August, 2008. In February, a slight repositioning of the satellites optimized Inmarsat's global coverage. The I-4s are geostationary satellites allowing users to lock on to their position indefinitely.

Within the oil and gas industry the primary use for the BGAN system takes place at exploration phase, says Curran. Yet applications for development, production, supply and transmission phases should not be overlooked.

Teams required to work in remote locations, which can be seismically unstable, or politically unstable, have the ability to send data back to the main office in real time. This saves time and money, as teams are able to receive guidance on location, circumventing delays in the flow of information.

"Companies can save money on a project by project basis," says Curran.

The portability and simplicity of the BGAN terminal allows for rapid setup and takedown, and enables the coordination of site development. One BGAN terminal has the ability to support 11 simultaneous users.

From a project management perspective, remaining in touch, sending photos, reports and updates back to the project offices, particularly if the site is remote, is the key to reducing costs and allowing for safety and risk management.

"From a health and safety perspective, this is important," says Curran. "From a welfare perspective teams are able to maintain communications with their families and maintain their lifestyles."

"Often with any development there is an affect on the local communities," says Curran.

A BGAN terminal with prepaid airtime may help the community connect with the world, often allowing schools to meet educational needs.

"This is a way for oil and gas companies to embrace corporate and social responsibility in a way that costs are controlled," says Curran.

BGAN can also serve as a reliable back-up to any communications infrastructure.

Once a site is developed, a permanent satellite solution such as fixed VSAT, will enable higher data speeds. However, BGAN operates on the L Band, a frequency which remains stable despite weather concerns.

With the SABRE Ranger, a BGAN terminal, unmanned integration and remote monitoring are possible utilizing Supervisory Control And Data Acquisition (SCADA) applications. Remote SMS control allows for activation (or deactivation) to perform any SCADA operation. This robust terminal may be left behind at a site for environmental monitoring.

BGAN is available from Inmarsat's 16 distribution partners and a network of over 600 service providers around the world. To date, the service has been deployed in over 185 countries.

New mobile broadband satellite systems, such as BGAN from Stratos, offer voice and high-speed data connectivity via compact, lightweight terminals.

A 1.5 billion dollar investment, the I-4s are fully funded, providing end users with a little bit of reassurance considering the world's current economical climate. The I-4's life expectancy will reach well into the mid 2020's.

Working with a number of partners and service providers Inmarsat offers a wide range of voice and high speed data services anywhere in the world.

Broadband Global Area Network- True global coverage for oil and gas

Utilizing the I-4 satellites Inmarsat's Broadband Global Area Network service (BGAN) offers the oil and gas industry a unique package: instant voice and high-speed broadband data transfers from a terminal designed for portability and simplicity.

The BGAN terminal is small enough to fit in a backpack and little technical expertise is required for set up.

"Anyone beyond the reach of standard terrestrial or mobile networks can take their BGAN terminal out, point it up to the sky, and literally within a minute have broadband connectivity anywhere in the world," says Simon Curran, Inmarsat's business development manager.

"Users can take comfort that wherever they are, no matter how harsh the conditions are, they are able to get connected."

BGAN is the only mobile satellite service which offers simultaneous voice and broadband data transfers. Guaranteed streaming data at 384kbps plus, video conferencing, email, SMS messaging and analog phone service are just a few examples of the possibilities for utilizing this device, anywhere on the planet. BGAN effectively brings connectivity to people beyond the normal communication networks.

"Users have a broadband connection that will follow them anywhere around the world," says Curran. "Anything they could do at their desks in their offices, they could equally do out of their backpacks in the midst of Siberia."

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Addvalue's new SABRE Ranger BGAN SCADA terminal.

While BGAN offers all of these services on land, Inmarsat also provides FleetBroadband for use at sea. FleetBroadband provides similar levels of connectivity, as a stabilized antenna enables users to track the satellite offshore.

The Stratos Advantage

Recently, Inmarsat acquired its distribution partner Stratos, which resells Inmarsat satellite services worldwide.

With corporate offices in Bethesda, MD, U.S. and St. John's, NL, CAN, Stratos is uniquely positioned to serve the demanding communications requirements of the oil and gas industry.

"Together (with Inmarsat) there are a lot of opportunities to offer customers a premium service," says Hugh Donnan, manager of enterprise vertical markets for Stratos.

Stratos provides industry-leading value-added services to optimize communications performance with the Inmarsat-4 satellite network, says Donnan. The Stratos Advantage is a suite of services that help elevate BGAN from Stratos far above baseline offerings. These value-added services, including Stratos Dashboard, provide users with cost control, firewall management, full traffic information, pre-paid facilities, high security options, easy VPN access, messaging services and full IP range.

With a global network of 400 channel partners, Stratos provides Inmarsat with insight into customer requirements and markets. This partnership provides a unique platform for oil and gas companies.

"We see a lot of operators looking for a backup system, or another satellite network that offers a more global reach," he says. "The entire land mass of the earth is covered by the I-4 satellites and there is no need for switching to different satellites or satellite networks."

"We see BGAN fitting in as a frontline solution, and definitely a backup at a number of key receiving points for oil and gas companies," he says. Stratos together with Addvalue Technologies, was responsible for the development of the Addvalue SABRE Ranger BGAN SCADA terminal.

In terms of oil and gas exploration, the latest broadband solutions enable senior geologists to remain in the office, saving travel time and costs, while technicians are sent out into the field.

"Technicians are able to collect the data and send it straight back to the head office. Then work can begin immediately," says Donnan. "This allows companies to work smarter."

"It's a very interesting time in oil and gas, the newer generation of services are collectively regarded as mobile broadband services, all available via the I-4 network," says Donnan. "Customers are finding more ways of utilizing BGAN to work a little smarter."

Inmarsat - On the Horizon

There are two new developments in the company's future. Inmarsat will be the operator of the European Space Agency's Alphasat initiative. The Alphasat I-XL satellite will use additional spectrum to provide advanced mobile services over Europe, the Middle East and Africa.

The second development is a global satellite handheld device, which will be introduced by Inmarsat in 2010.

Today, Inmarsat is in a position to offer mobile broadband services on land, at sea and in the air. With numerous distribution and service partners, such as Stratos, Inmarsat is well positioned to offer the oil and gas industry effective mobile broadband network services. **OGN**