



Enabling operational efficiency for energy

Providing broadband, voice and M2M communications
via satellite throughout a project's lifecycle



Optimising performance for the energy sector

Deliver operational efficiencies to the intelligent oilfield via satellite, wherever your projects are located.

Whether it's voice and data connectivity for field workers and remote offices, or machine to machine (M2M) solutions for monitoring, controlling and automation of fixed and mobile assets, companies are evaluating communications choices based on reliability, affordability, availability, and security. Inmarsat's mobile and fixed satellite services deliver on all counts.

Through every step of the project lifecycle, from exploration right through to site closure, oil and gas companies need to access and exchange data. Our voice and data services, delivered through our global satellite networks, can connect all your exploration, production and distribution sites around the world, no matter how remote their location.

Satellite communication is increasingly recognised within the industry as the only viable option for primary and back-up connectivity. Outside dense population areas, cellular coverage is often unavailable, and when it is present, it is vulnerable to network congestion. Also, when oil and gas operations span multiple geographies, cellular networks often don't cross national

borders, so additional time and resources are needed to arrange agreement with multiple providers and that can leave businesses exposed to expensive roaming charges. As Inmarsat owns and operates global networks delivering proven L-band services, such as BGAN, and our Ka-band service Global Xpress, we can enable companies to standardise their communications and equipment across their entire production and distribution operations.

Our L-band Inmarsat-4 ground network delivers unbeatable 99.9 per cent availability, and with L-band services available for primary or back-up connectivity there is no risk of losing a connection to rain fade in extreme weather conditions.

So, at a time when your focus is on maximising operational efficiency, Inmarsat is helping you get to the production stage faster and to keep well and pipeline downtime to an absolute minimum.

Solutions for energy

> **Exploration:**

BGAN, IsatHub, Global Xpress

> **Site communications:**

BGAN Link, Global Xpress, IsatPhone Link, IsatPhone 2

> **Remote monitoring and control:**

BGAN M2M, IsatData Pro

> **Personnel safety:**

IsatPhone 2, BGAN

> **Crew welfare:**

BGAN Link, Global Xpress



LUFKIN

DANGER



Quicker decision making to reduce find time

Save time and money with real-time data exchange from remote exploration sites.

With potential drilling sites becoming harder to find, exploratory teams are being sent to ever more remote and hostile locations where even basic communications services are non-existent.

To avoid the huge time and money wasting scenario of delivering survey data by road or air, the team on the ground need to be able to send reports back to the lab instantly. Our mobile satellite equipment is designed to be highly portable and is quick and easy to set up, so data can be transferred within minutes of reaching the site.

Drilling teams sinking exploratory wells can send high volumes of data 24/7, from test reports to images and video, which helps to reduce find time. Always available communications enable your field teams to transmit data in real time, resulting in quick decision-making, so hiring expensive short term rental equipment can be kept to a minimum, which makes a significant contribution to the reduction of exploration costs.

BGAN terminals are small and light enough for hand luggage, but also rugged and well-adapted for rough terrain and hostile climates. Power consumption is low, and batteries are easy to recharge using solar panels or a vehicle charger. Remote workers only need one BGAN terminal to set up a mobile office for up to 10 voice and data users simultaneously and establish secure VPN connections to corporate systems.

Furthermore, with the arrival of Global Xpress, Inmarsat offers the only service with continuous, end-to-end high bandwidth on a global scale. With easy to deploy transportable terminals and a wide choice of cost-effective service plans, Global Xpress enables exploration teams to deliver high volumes of data from the field to HQ in seconds, allowing companies to quickly identify permanent sites, or move on quickly to find the next one.

Bring your own device

With access to a wealth of useful apps as well as email, internet and voice, smart devices are now ubiquitous for business as well as personal use, but there is little point in taking along your smart phone or tablet if you cannot rely on getting a connection. Fortunately, our new IsatHub service enables exploration teams to use their own devices with our global satellite networks to talk, text, use apps and the internet, no matter where they are working.

The service is accessed through a lightweight, portable terminal the size and weight of a paperback book, and delivers data speeds of up to 384kbps – the fastest speeds of any equivalent service. The terminal has a 30 metre Wi-Fi range and allows multiple users to connect.

Site communications

Instant broadband communications, set up in minutes enabling productivity from day one.

Once a site is established, communication needs turn to the longer-term. Our portfolio of fixed solutions, including Global Xpress and BGAN Link, alongside our mobile satellite services, provide sustainable connectivity solutions with a wide range of affordable service plans.

BGAN Link and fixed Global Xpress services enable project teams to set up a virtual office, supporting all major VPN solutions and encryption standards. Once connected, virtual offices can then send and receive high volumes of data, cost-effectively for sustained periods. Terminals can be set up with an online connection established within minutes, with no technical expertise needed, so project managers can immediately gain access to corporate VPN, chase suppliers and send progress reports.

Our seamless Ka-band service Global Xpress is setting a new standard in combining performance, reliability and simplicity with a lower overall cost of ownership. Global Xpress is the only solution to offer high

bandwidth on a continuous, end-to-end global basis from a single operator – eliminating the need to manage multiple contracts with different service levels across different VSAT providers.

BGAN Link offers high monthly volumes of always-on Standard IP data through flexible, affordable price plans. Operating over the resilient Inmarsat-4 network, BGAN Link's connection is maintained even during extreme environmental conditions and also benefits from a high degree of pointing tolerance in strong winds and seismic activity.

Whether it is a fixed or mobile solution in use, companies benefit from improved asset and supplier management, rapid decision-making, contingency response, and reduced capital and operating costs that Inmarsat's diverse portfolio of voice and data can bring.





TEMPERATURE 93.8 °F

TODAY'S ENERGY 3 MBTU



VOLUME TODAY 2.82 MCF

DIFFERENTIAL PRESSURE
14.2" OF H₂O

Remote automation, monitoring and control

Manage and remotely check the condition and status of all fixed and mobile assets with our global M2M connectivity services, 24/7.

Complete operational visibility and remote control of your extraction and distribution infrastructure maintains productivity and ensures undisturbed delivery and minimal downtime.

Installing a satellite communications solution at wellheads, drilling platforms or at key points along your pipeline network, linked to all your sensors, allows you to automatically backhaul a constant feed of real-time data to your onsite team and control room using our global, two-way IP-based service.

If there's a fault, BGAN M2M can automatically alert the control room, so technicians can respond quickly, either by resolving the problem remotely or deploying maintenance technicians. In turn, engineers in the field can use BGAN to send video or images of damage and liaise with experts for quick results.

Once a site reaches its end of life, our M2M services can also aid environmental monitoring during closure operations.

Protecting the integrity of data and the security of your assets is paramount. Our encrypted services meet military and government requirements meaning the information you share between remote sites and HQ remains secure and uninterrupted.

Inmarsat's machine-to-machine (M2M) services such as IsatData Pro and BGAN M2M provide valuable remote tracking and control for fixed and mobile assets.

Security of remote sites can be remotely monitored by BGAN M2M-powered CCTV. You can receive real-time alerts of incidents and emergencies, as well as live video images, back in your control room. This makes it easier for companies to comply with health and safety and insurance obligations, and also provides peace of mind to on-site teams.

Using IsatData Pro, logistics managers can monitor their road tanker fleet and be in continuous contact with the control centre, drivers, warehouses and customers awaiting delivery. Therefore, enhancing business efficiency and providing a greater level of security for cargo and drivers. If a tanker is stolen, they can easily track it in real time, significantly increasing the chances of its recovery.

Our M2M services are accessed via ruggedised terminals designed for remote operation and long-term, unmanned deployment, and low hardware costs and per megabit or monthly airtime price plans means you have complete control over your budget.

IsatData Pro application examples:

- > Cathodic protection monitoring to prevent pipeline erosion
- > Heavy plant tracking and monitoring
- > Location and condition tracking for fleet logistics

BGAN M2M application examples:

- > Real time flow rate monitoring for oil pipelines
- > Wellhead monitoring and control

Looking after your personnel

Minimise employee down time and increase well-being in the workplace.

Personnel safety

IsatPhone 2 is a tough phone for a tough world. The robust satellite phone handset was engineered to cope with inhospitable environments and extreme temperatures and the connection is reliable and crystal clear. Network registration takes under 45 seconds and the phone has unrivalled battery life – eight hours of talk time and up to 160 hours on standby.

IsatPhone 2 also offers important safety features. The emergency assistance button sends GPS location data and a text message to a pre-set contact number and a tracking capability transmits location information. Customers on monthly plans benefit from free-of-charge worldwide emergency assistance from GEOS. Once configured, a single push of a button will send a message to GEOS' 24/7 emergency response centre which will contact the user to get them the help they need. That's invaluable reassurance.

If something does go wrong and a field worker is injured, BGAN's high-quality live video streaming can help doctors hundreds of miles away make detailed assessments and stabilise the patient's condition, before deciding whether medical evacuation is necessary. Prompt care can save lives and reduce patient recovery time. Those with less serious conditions can be treated on site, enabling them to return to work quickly. From remote medical care to communications, whatever your requirements we also have Global Xpress services which will fulfil them.

Personnel welfare

Working on remote exploratory and production sites for extended periods can be an isolating experience. Giving personnel a communications lifeline to the outside world makes all the difference. With broadband

data services on site, staff can use them at any time without impacting operational requirements. Just one BGAN or IsatHub terminal, for example, can support up to 10 users simultaneously.

For workers on offshore rigs, there is also FleetBroadband which offers reliable and cost-effective access to multiple phone lines, SMS text messaging, email and the internet. Workers can access FleetBroadband using pre-paid airtime cards which can be partially or fully subsidised as an employee benefit.



Innovation through partnership

Collaborating with pioneers in innovation for specific oil & gas solutions underpins every aspect of our approach to the resources market.

Tailor-made solutions

As part of our commitment to offering customers innovative, tailored end-to-end solutions, Inmarsat facilitates access to our network for 3rd party providers and we work together to provide solutions that are not only optimised for use over our satellite networks, but also offer our broadcast customers genuine business benefits. The Certified Application Partner

(CAP) programme is part of this wider strategy and further supports Inmarsat's belief that partnership is more important than ever in content production. Following rigorous testing, we certify solutions as 'Inmarsat ready', indicating their effectiveness from a network perspective and its utility for customers. This means that our partners can now offer a selection of innovative broadband, M2M and voice

solutions outside of cellular and terrestrial communications, increasing the operational efficiency of any oil and gas project.

To discover more about our partners' solutions from pipeline monitoring to corporate VPN connectivity solutions that leverage the global reach of Inmarsat's network, visit us online at inmarsat.com/solutions

RedPort



Satellite broadband Wi-Fi hot spot, firewall and network solution from RedPort.



A Site Systems Software solution to remotely manage and monitor data in real time, from anywhere in the world.

CITRIX®



Cloudbridge, from Citrix, provides optimised bandwidth usage across multiple communications technologies.

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