

BGAN M2M benefits

- 1 Reliable network – 99.9% satellite and ground network availability
- 2 IP-based network with two-way encryption to integrate securely with existing IT infrastructure
- 3 Worldwide coverage – one provider to cover entire distribution network
- 4 Easy to set up and maintain, with no requirement for specialist staff or training
- 5 Cost-effective flexible pricing options for consistent budget planning and control

BGAN M2M for utilities

Ergon Energy uses BGAN M2M for efficient grid monitoring and control

BGAN M2M provides reliable, real-time connectivity for Ergon Energy's power grid – enabling secure, cost effective monitoring and control of their distribution network in remote areas.

Utility network management is complex. When severe weather or natural disasters hit, temporary or permanent damage can occur to the transmission grid. It is estimated that over 80% of network faults can be attributed to short-term 'transients' in supply from disrupted power lines. To combat this, utility companies segment their distribution networks in order to isolate faults to as small a part of the grid as practical.

Traditionally these segments were controlled by breakers installed at key points in the network. However, breakers can only respond to significant power surges and are only installed at sub-stations, so resilience is less than optimal. Reclosers eliminate these shortcomings as they enable utility companies to manage and monitor their network in a more efficient manner before substations can be affected. They can be placed at strategic locations throughout

the network, meaning that damage can be isolated and power re-routed without waiting for a substation to be affected.

In order to function optimally, reclosers need an always-available, real-time connectivity solution for instant control in cases of outage or disruption to power lines. They can be triggered remotely and also provide data back to the operations center, enabling utility companies to prioritise restoration activities, reduce customer outage time, decrease revenue impacts from outages and minimise the potential for cascading infrastructure damage.

Connecting Queensland

Ergon Energy maintains and manages the regional electric distribution network across Queensland, Australia. They provide energy for more than 720,000 homes and businesses, covering 97% of the state of



"The Inmarsat BGAN M2M service has given us access to parts of our distribution network that had remained out of bounds when it comes to remote monitoring and control. We chose Inmarsat for its reliability. Monitoring and controlling a power grid needs a real-time, always available flow of information and we're happy to say Inmarsat's service has been extremely reliable."

Sanjewa Athuraliya, Senior Telecommunications Architect, Ergon Energy

Queensland - more than a million square kilometres. Their distribution network covers some of the most rural parts of Australia, requiring 160,000 kilometres of power lines and more than a million power poles.

Ergon Energy have installed hundreds of reclosers throughout their network, with a significant number operating in the most isolated parts of the state, areas in which traditional connectivity methods, such as cellular and terrestrial, are limited or not available. Their requirements for remote connectivity were a single, ubiquitous, reliable network that was impervious to natural disasters and weather events, while providing a high level of security. Inmarsat's BGAN M2M service met those requirements, providing a seamless, easy to integrate, real-time, IP-based connectivity service, to remotely monitor, control, and manage their recloser network.

Ergon tasked its subsidiary telecommunications carrier, Nexium Telecommunications, to seek out a supplier. After testing the market Nexium partnered with AST to offer the services.

Since BGAN M2M is powered by Inmarsat's global 3G satellite network, Ergon Energy were able to use a direct interconnect to the Australian meet-me-point in Sydney to integrate the recloser network into their existing distribution automation network control system.

Addvalue's compact Wideye Sabre Ranger BGAN M2M terminal completed the requirements. The Wideye Sabre Ranger BGAN M2M terminal is a robust single-piece terminal, capable of being pole mounted, that's low profile and easy to install with an IP66 water and dust resistance rating – making it an ideal solution for long-term, unmanned installation in remote areas.

Ergon Energy's initial deployment of 100 terminals was completed quickly and efficiently, with no need for specialist installers or training, and rapidly increased, with connectivity being provided to various other distribution automation devices and sites. Each recloser uses between 5MB and 15MB of data per month in real time. BGAN M2M's pooled data plans means that Ergon Energy has complete budget control for their communications needs, since each terminal draws from a shared pool of data.

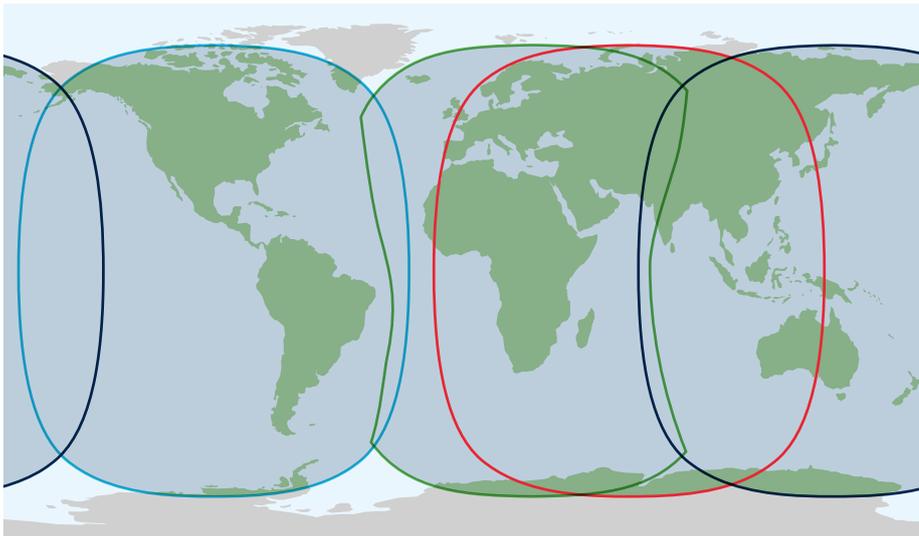
BGAN M2M provided the reliability, cost effectiveness, security and ease of use that Ergon Energy were looking for to automate and monitor their distribution network, and with the service expected to have an operational lifetime well into the 2020s, BGAN M2M will continue to serve efficiently and effectively for many years to come.



About Inmarsat

Inmarsat plc is the leading provider of global mobile satellite communications services. Since 1979, Inmarsat has been providing reliable voice and high-speed data communications to governments, enterprises and other organizations, with a range of services that can be used on land, at sea or in the air. Inmarsat employs around 1,600 staff in more than 60 locations around the world, with a presence in the major ports and centres of commerce on every continent. Learn more about how Inmarsat's services enable efficient and reliable utility automation here:

Inmarsat coverage



■ Combined I-4 and Alphasat coverage ■ I-4 Americas
■ Alphasat ■ I-4 MEAS ■ I-4 Asia-Pacific

This map depicts Inmarsat's expectations of coverage following the commercial introduction of Inmarsat's fourth L-band region, scheduled for the end of 2015. It does not represent a guarantee of service. The availability of service at the edge of coverage areas fluctuates depending on various conditions.

Inmarsat.com/enterprise/utilities

While the information in this document has been prepared in good faith, no representation, warranty, assurance or undertaking (express or implied) is or will be made, and no responsibility or liability (howsoever arising) is or will be accepted by the Inmarsat group or any of its officers, employees or agents in relation to the adequacy, accuracy, completeness, reasonableness or fitness for purpose of the information in this document. All and any such responsibility and liability is expressly disclaimed and excluded to the maximum extent permitted by applicable law. INMARSAT is a trademark owned by the International Mobile Satellite Organisation, the Inmarsat LOGO is a trademark owned by Inmarsat (IP) Company Limited. Both trademarks are licensed to Inmarsat Global Limited. All other Inmarsat trade marks in this document are owned by Inmarsat Global Limited. © Inmarsat Global Limited 2015. All rights reserved.