



Secure and reliable global connectivity



Datasat Communications has been delivering secure and reliable global networks to customers for over a quarter of a century. The company has almost unrivalled experience in providing effective communications in the remotest and harshest of environments. As one of the world's leading independent communications service providers, it creates tailored network solutions based around quality and cost-effectiveness.

In 1987, the company began life at the forefront of the satellite industry. It was one of the first independent service providers to be granted a license from the major satellite companies following market deregulation. It helped pioneer real-time trading within the financial community and helped develop the network for a satellite broadcasting company.

In order to achieve this level of success, Datasat Communications invested in its own independent network infrastructure. Centred around its privately-owned Teleport in the UK, Datasat Communications can provide network services anywhere in the world. The company's ability to guarantee the performance and security of its networks is a key reason that the past 20 years has seen it provide diplomatic networks to government embassies across the globe.

Datasat Communications is a recognised leader in satellite communications. A well designed VSAT network offers a fast, secure, flexible and high performance infrastructure to meet voice, data and growing multimedia needs in remote locations. Even today, satellite infrastructure can achieve this in a much more cost-effective manner than any other available alternative.

While satellite remains an essential communications technology, it has been joined by the maturing approaches to wireless technologies and developments to create a fibre-based terrestrial infrastructure in all parts of the world. For the first time, organisations have the ability to develop communications solutions that reflect exact business and budget requirements rather than the limitations of available technologies.

Today, virtually every network will combine best-of-breed technologies to ensure the resilience, availability, security and data capabilities required. Datasat Communications has access, through Datasat Technologies, to the latest generation of intelligent wireless systems that enable the company to deliver multiple network services over a single robust, high performance infrastructure that deploys the minimum network equipment to meet requirements.

Meeting every communications need

Satellite Communications

Datasat Communications designs and builds VSAT satellite communications infrastructure throughout the world. Available in point-to-point and point-to-multi-point configurations for SCPC, DVB and TDMA connectivity, the networks provide the correct level of security and flexibility. Managed centrally from the Datasat UK Teleport, satellite networks deliver SLA-backed availability up to 99.98%.

Intelligent Wireless

Intelligent WiFi requires fewer wireless units while providing increased capacity, reliability, range and security. Using intelligent Layer 3 management to enable bandwidth allocation at an individual user level, these systems have been specifically designed for video and rich media traffic. Low latency and increased coverage means that the network requires less equipment, maintenance or support.

Low-cost Mobile anywhere

The innovative mVOIP (Mobile Voice Over IP) system enables seamless GSM roaming over a Datasat WiFi network. This ensures that there is effective mobile coverage even in areas where GSM connectivity is poor. It also a far more cost-effective approach to delivering mobile connectivity into remote areas. The service can be accessed through a downloadable app.

Multi-service networks

All network services operate seamlessly over a single global infrastructure. Intelligent traffic management and bandwidth allocation ensures that network users always have access to the services they need. Careful network planning extends performance and reach with the minimum of network equipment or management overhead. In addition, self-healing networks provides high availability in the most remote and extreme environments.

Rapid deploy networks

Highly secure and available satellite and wireless network infrastructure for ad hoc, unforeseen or emergency safety communications can be deployed anywhere. Rapid deploy networks can be easily configured and reconfigured as needs change. Vehicle/trailer mounted units reduce connection times to hours while mobile units can be transported and installed in as little as 15 minutes. Flexible leasing options are available.

INTEGRATION AND QUALITY

Perhaps the most important consideration for a global network is fully integrated internet, voice, video and data into a single infrastructure.

Datasat Communications carefully plan and design the network to integrate satellite, wireless, mobile and terrestrial technologies. Wireless and GSM have advantages in terms of intra-site and site-to-site communications. The glue, however, to the integrated Wide Area Network (WAN) continues to be the VSAT satellite infrastructure. It allows for highly available and cost-effective bandwidth between sites, in-country offices and the corporate headquarters. It can deliver the performance necessary for sites and offices to share communications and business applications at DSL-like speeds – with higher security levels.

The key is effective bandwidth utilisation; the ability to deliver services to single or multiple sites for a wide range of purposes in a secure, available and high performance manner. Datasat Communications design every network to specific needs – which can include the use of shared service to maximise bandwidth utilisation and reduce costs.

Datasat Communications has in-depth experience of terrestrial integration with VSAT and wireless networks. Connectivity to the worldwide PSTN and national and international carriers is managed from the UK Network Operations Centre (NOC). In addition, Datasat Communications works closely with global partners to ensure Points of Presence (POPs) for customer networks onto the global fibre backbone where appropriate.

RELIABILITY AND SECURITY

Datasat Communications has specialised in delivering remote communications networks where connectivity cannot fail. Working with diplomatic and emergency services, networks are designed and built to deliver the highest levels of availability – regardless of the operating environment or location.

This involves two key elements: network design and network maintenance. In the first instance, Datasat Communications ensures that the network is carefully designed to make certain that it provides the required degree of reliability. VSAT technology has been developed especially for remote operations while Datasat wireless equipment operates continuously in temperatures ranging from -40oC and +70oC. Networks are designed to include the minimum of equipment for the required level of coverage and performance.

Secondly, networks in remote locations must operate with the minimum of maintenance. Datasat creates networks in flexible point-to-point, point-to-multi-point and fully meshed configurations to provide the potential for 'self-healing' networks that automatically re-route traffic to ensure that a single point of failure does not affect network performance.

These configurations allow customers to select the security that is correct for their network. Point-to-point VSAT connections offer the highest levels of security and availability. In addition, Datasat wireless solutions have the highest levels of encryption and support for RADIUS/AAA-based authentication to the network.



Key Industries



MINING

Datasat Communications is a leading service provider in the rapidly expanding sector of mining communications. Specialising in delivering communications solutions for terrestrial mine operators, the company provides robust and reliable network infrastructure for critical mine data, voice connectivity and corporate networking to mining properties in the world's most remote locations. Working with partners, Datasat is delivering the communications infrastructure necessary to support the latest mining automation and Health & Safety systems.



SURVEILLANCE

The requirement for high definition video surveillance solutions has never been greater. Many organisations – governments, ports, airports and emergency responders – are challenged with delivering rapidly deployed, secure and flexible surveillance networks. Datasat Communications provides end-to-end wireless and multi-service network solutions for all organisations that demand high quality, effective border security and video surveillance systems.



REMOTE COMMUNITIES

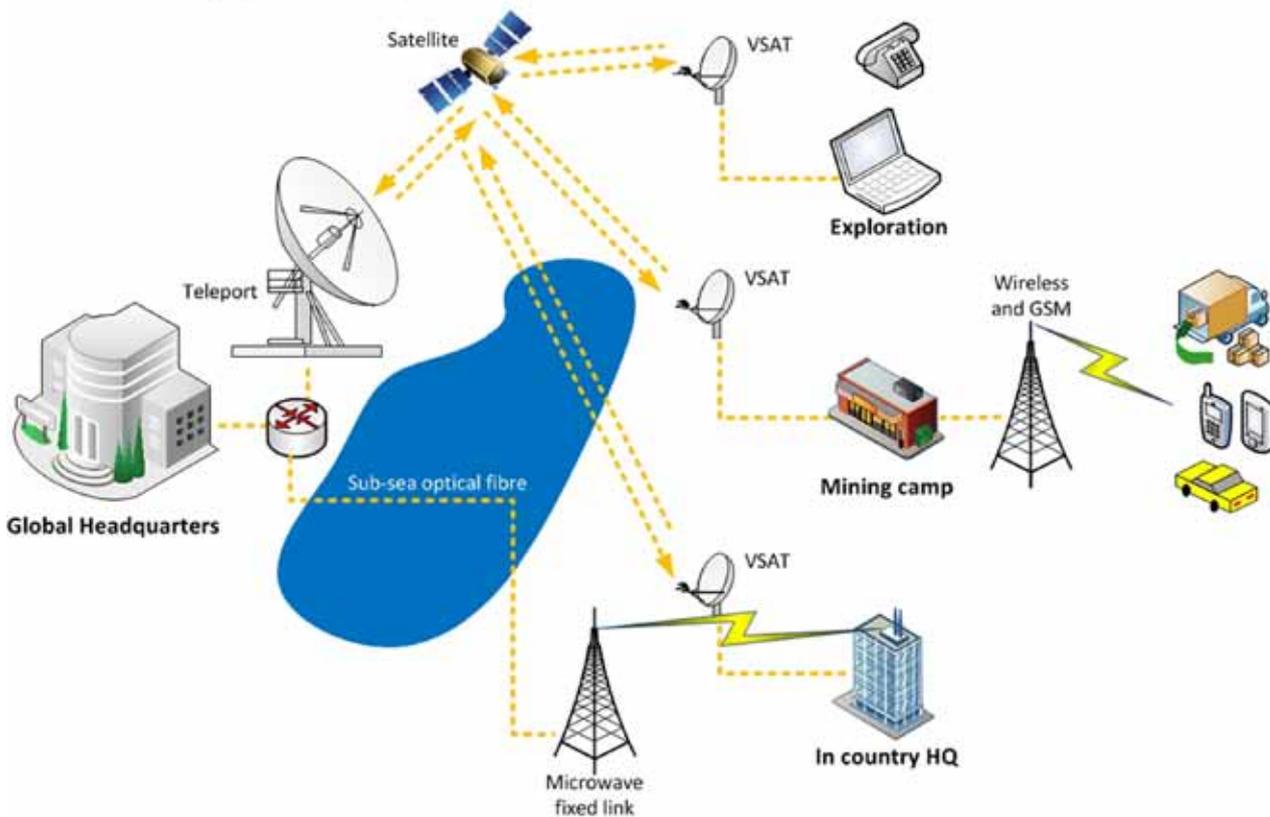
Datasat Communications designs, delivers and manages low cost, high performance network infrastructure for remote communities. Based on the latest wireless and satellite technologies, the community receives all the benefits of high speed internet access and broadband services without the expense of a fixed line or where terrestrial services are simply unavailable. Cloud-based network management removes the need for communities to employ and retain trained technical staff to administer the network.



OIL & GAS

Oil & gas companies require a single end-to-end and multi-service platform supporting next-generation systems and real-time applications in extremely hazardous and remote locations. Datasat Communications delivers the appropriate network infrastructure quickly and efficiently to allow customers to extend the reach of their operations to enhance productivity while ensuring worker safety.

Remote connectivity options to multiple or single sites worldwide



FLEXIBILITY AND SCALABILITY

Whether secure site-to-site or high performance site-to-multi-site, a VSAT network infrastructure from Datasat Communications is highly scalable.

It delivers a cost-effective, high performance communications platform whether for only a few sites in a single geographical region or to provide connectivity to hundreds of sites globally. In addition, new network components can be added quickly and efficiently. Datasat Communications has developed a series of solutions to allow for temporary or permanent VSAT connections to be implemented and operational in under one hour. Datasat's wireless systems can be cost-effectively deployed in a matter of hours.

Importantly, a good deal of the network infrastructure implemented

by Datasat Communications can be disassembled and redeployed. This degree of network reuse helps to reduce total cost of ownership.

However, it is not only the equipment that provides flexibility to the network. Datasat wireless solutions offer up to four radios in a single unit to allow multiple network services to operate seamlessly and securely over a single network infrastructure. There is no longer any need for separate infrastructure for services such as video surveillance.

The Layer 3 traffic management of these wireless devices places intelligence at the network edge to enable Datasat customers to gain granular control over network users, devices and applications. Bandwidth can be allocated to an individual user to ensure everyone on the network has access to the services they need when and where they need them.

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Case Study

Providing an innovative Newspaper Distribution Network



A publisher, with offices in London and Saudi Arabia approached Datasat to design and build a voice and data infrastructure to enable effective communications between its three hub sites as well as file transfer to printing facilities in remote locations including Jeddah, Riyadh, Damman, Cairo, Casablanca and Frankfurt.

The network needed to be able to accommodate the exchange of high definition content, collation of the final newspaper and transfer to printing presses on different continents. In addition, telephone networking and video conferencing were required over the same infrastructure.

A VSAT satellite network provided the most secure and reliable approach to meeting the publisher's requirements. However, the challenge was to ensure final copy was transferred to the presses cost-effectively and without data loss.

Datasat developed a unique file transfer protocol and fully redundant configuration so that files could be transmitted over the minimum space segment and any lost data automatically re-transmitted to ensure successful file transfer every time.

File transfer was only one innovative aspect of the solution. Datasat developed an automatic switch that allowed for the use of a single half duplex link over the satellite network. This allowed two-way communications between London and Riyadh for the transfer of very large files containing high definition magazine content, while saving 50% in bandwidth.

This link also allowed for a video conferencing network without the expense of a full duplex link. When not in use, the video conferencing bandwidth was automatically redeployed for file transfer. A similar approach was established where the telephone network was able to dynamically allocate under-utilised bandwidth to be used as a LAN bridge between the publisher's three hub sites. The result was that the network delivered full LAN connectivity at no extra cost.

The network was fully managed from Datasat's Network Operations Centre in the UK from where the company could easily monitor and control any remote earth station or VSAT link.

END-TO-END NETWORK SERVICES

Network services from Datasat Communications ensure optimum network performance, increased network availability and significant cost efficiencies – while freeing internal resource. Services include:

Network planning

The design and development of multi-vendor, multi-technology networks for superior performance and capacity as well as network changes and upgrades.

Configuration Management

The centralised control of the configuration of every element on global communications networks, enabling automated and scheduled system and software updates.

Performance Monitoring and Management

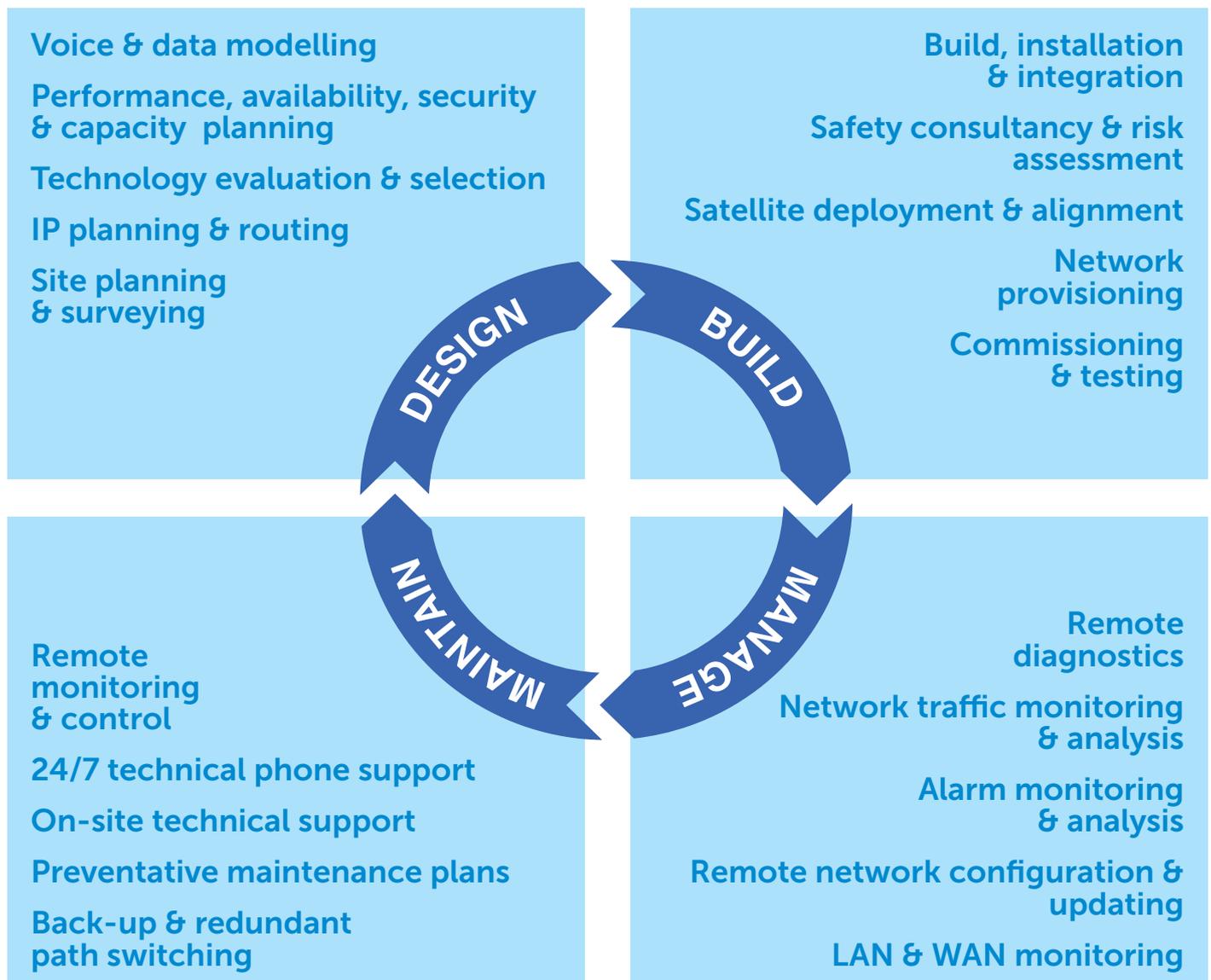
The proactive management of all network elements including network traffic, remote IT and transmission equipment, alarm monitoring and analysis, and remote diagnostics. Clients have web-based access to the NOC for their own monitoring.

Support and Maintenance

In addition to 24x7 technical support, customised packages allow for the level of maintenance for the importance of the network service. Preventative maintenance is offered where the service must be available.

Business Continuity

A complete range of back-up and redundant switching options are available for business continuity. In this way, the failure of a single piece of equipment will not affect network performance and business services can be restored quickly.



Why Datasat Communications?



HIGH SPEED, LOW COST SATELLITE CONNECTIVITY

Studies have shown that implementing satellite can cost over 18 times less than fibre in many remote areas. When factoring the time for regulatory compliance and physical implementation, satellite becomes the best option. As the new generation of satellites provide high speed, high bandwidth connectivity at lower costs, Datasat offers a variety of satellite services that ensure broadband-like connectivity can be supplied quickly and economically anywhere in the world.



POWERFUL AND ROBUST WIRELESS TECHNOLOGIES

Datasat is unique in providing four multi-frequency radios within a single wireless device. This provides the flexibility to create multi-frequency, multi-network systems within the same ruggedised, climate-tested chassis enabling high performance, high availability networks with less investment and management overhead.



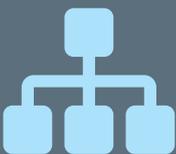
QUALITY-DRIVEN NETWORK SERVICES

Datasat is a service provider. Although Datasat offers its own technology, the network designs are technology independent. The company creates best-of-breed solutions that exactly meet business and budgetary requirements and are designed around performance, availability and security. The core of the service is always quality. This is the only way to deliver the full value of investment across the lifetime of communications networks.



FIELD-PROVEN INNOVATION

Datasat has a history of communications innovation. One of the first truly independent satellite service providers, the company's wireless technologies have been specifically optimised for HD video and audio. Datasat works with customers to create tailored solutions. Examples include a managed file transfer protocol for an international publishing house and a power converter for TETRA traffic to travel over satellite for an emergency communications network.



PRIVATELY-OWNED NETWORK INFRASTRUCTURE

Datasat is one of the very few independent service providers that still operates a privately-owned network infrastructure. This gives the company absolute control over how the network operates and grows. Of course, Datasat works closely with partners to ensure global coverage and that Datasat networks have an effective Point of Presence (POP) to fibre backbone where appropriate. Most importantly, all aspects of the network can be managed through the Datasat NOC, giving customers a single supplier with one contract and a single SLA for its communications requirements.



UNRIVALLED EXPERIENCE

Datasat has 25 years experience in delivering secure and reliable global communications networks. Originally specialising in VSAT satellite communications, the company now offers a complete range of communications services. The corporate policy of only deploying personnel trained and employed by Datasat for every project ensures that customers benefit from that experience and receive quality network build and management direct from Datasat.

'BETTER THAN TERRESTRIAL' PERFORMANCE

From the arid climate of sub-Saharan Africa to the Siberian cold, it is imperative that communications networks continue to operate in the most extreme and challenging environments.

In addition to the rugged nature of Datasat equipment, the network has to provide high availability levels in hostile weather conditions. Datasat Communications is able to deliver superior network uptime and throughput that is backed by guaranteed Service Level Agreements (SLAs). For example, the latest generation of High Throughput Satellite delivers up to 100Gbps – representing over 100 times that of conventional K-band satellite.

This level of service is significantly higher than that of many terrestrial providers in developed countries with an established wired infrastructure. It is often superior to the levels of service possible from the local terrestrial provider – even in large cities.

When linked to the on-site advantages of intelligent wireless systems, Datasat Communications deploys satellite and terrestrial communications to deliver the most reliable and secure global networks available today.

Key Personnel

PHIL EMMEL

President, Datasat Group

Founder and owner of Datasat Communications, Phil developed the company from a projects-based operation into an internationally acclaimed global VSAT network operator.

HARRY WESTROPP

Chairman, Datasat Group

Harry is a seasoned chairman with a career spanning several decades holding senior roles throughout. He has held CEO positions within Corporate Finance and Management in a number of industries. Most recently Harry was CEO and Chairman of Norbain plc, the largest European distributor and manufacturer of CCTV and security products. Separately to Datasat, Harry is Chairman and Non-Exec Director of Agrivert Limited, Throgmorton Trust plc and Belvoir Cordials

CIARAN DORAN

Chief Executive Officer, Datasat Group

As a highly experienced business leader, Ciaran currently leads all three companies within the Datasat Group. With both a technical and creative background, Ciaran's business career took off in Sony in the 1990s where he led several turnarounds and new business startups within the company. While at Harris Corporation's broadcast division Ciaran repositioned the new multi-million dollar business that led to Harris becoming number one in the broadcast manufacturer arena.

MIKE ACHESON

Chief Financial Officer, Datasat Group

As a highly experienced CFO, Mike has previously held CFO positions within companies in the fields of technology, financial services, distribution, media and mining. Mike was joint founder and CEO of a financial services group and built it to a turnover of £40 million with operations in 4 European countries. In 2002 he set up a money remittance business for the group, building it to having operations in 60 countries.

Case Study

A Global Mining Network delivered in six weeks



In order to increase business efficiency and maximise revenue potential, mining organisations need to establish full business communications on new sites in an extremely timely and cost-effective manner. A large mining operator turned to Datasat Communications when establishing a new mine in West Africa.

The company had three key requirements for its remote communications infrastructure. It had to be installed and operational within a very keen timeframe. It had to allow the company to make the most economic use of the available resources. Finally, the site had to function as an extension of its corporate network. Workers on site had to have high speed access to its essential business systems, especially SAP.

Given the remote location and the imminent timeframe, a satellite-based network infrastructure offered the optimum approach for the company. Key considerations had to be given to system availability and reliability. The network had to be always-on and accessible when and where people needed it. This required a high performance and flexible architecture where bandwidth allocation could be achieved in a dynamic fashion to meet workload requirements at peak times.

The system created was based on a highly available, C-band satellite network with VSAT terminals on the site remotely managed from the Datasat Network Operations Centre. The network allowed the company to use an IP-based architecture to deliver voice, data and video services. It could deliver high speed access to its business systems to people on site while enabling the real-time sharing of information between the site and UK-based headquarters for improved decision-making.

A completed operational network was achieved within six weeks of placement of initial order. This included the initial site survey, build, installation and testing. The VSAT infrastructure delivered a high speed, highly available platform for the company's voice and data services. Importantly, it was able to deliver broadband-like speeds for the company's SAP system in a highly remote area.

