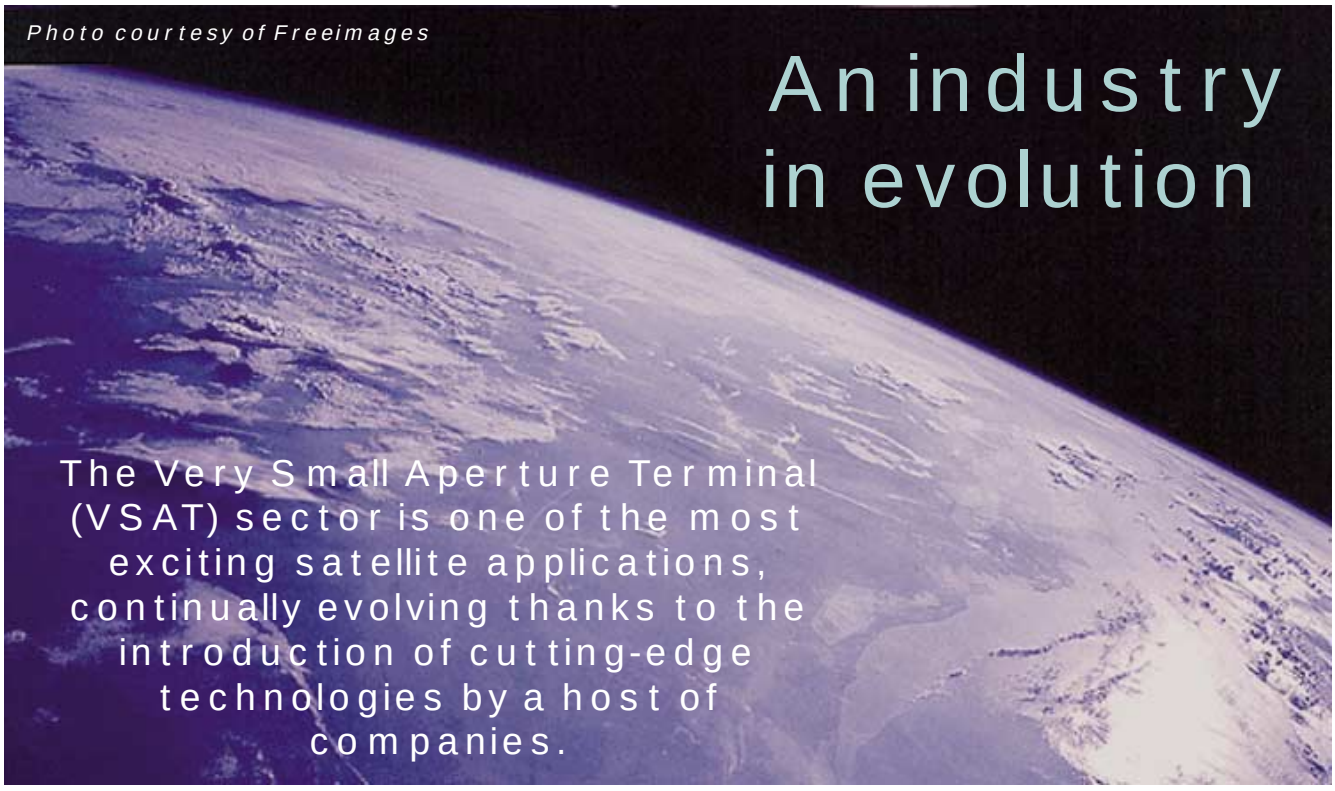


Photo courtesy of Freeimages

An industry in evolution

The Very Small Aperture Terminal (VSAT) sector is one of the most exciting satellite applications, continually evolving thanks to the introduction of cutting-edge technologies by a host of companies.

Days are never dull within the Very Small Aperture Terminal (VSAT) industry: hardly a day goes by that a number of companies from all over the world announce the introduction of a new service, or the application of a state-of-the-art technology to the satellite sector.

True to its nature, the VSAT sector thrives on features such as innovation, research, trials and experimentations. Continually evolving to respond to the challenges of a marketplace developing at an incredibly fast pace, the VSAT sector has been the home of some of the most interesting innovations the satellite industry has ever seen, and will certainly continue to remain so in the future.

New services

One of the areas in which we have witnessed some of the most interesting developments in the VSAT sector, is that of service development. The satellite sector, in fact, is no longer a self-standing industry, but is increasingly becoming integrated with the terrestrial telecommunications sector. And it is thanks to the developments taking place in the VSAT sector that this integration is taking place.

A broadband generation

Hughes Network Systems (HNS) has recently introduced the DW7000 family of next-generation broadband satellite routers. This high performance product line is designed to unlock the value and performance of satellite broadband by offering higher speeds on both up and downstream connections.

"The DW7000 family will take satellite broadband performance to the next level," said HNS Chairman and Chief Executive Officer (CEO) Pradman Kaul. "With the industry's most powerful enterprise router and speeds up to six times faster than previous generations, its capabilities are truly unprecedented. As enterprises and consumers alike begin adopting the DW7000 family, they will not only see the better performance, but the true value of satellite broadband."

The DW7000 family initially consists of two offerings: the DW7700 for high-end enterprise and government applications; and the DW7000 for lower end business requirements. The product line is ideally suited for organisations that require ubiquitous broadband coverage and always-on Internet connections, and that use bandwidth-intensive applications ranging from two-way video to large data files attached to e-mails.

The DW7700 is the first product in this new family to be launched. Recognising the worldwide demand by enterprises for ever increasing amounts of bandwidth and the ability to support many simultaneous users, the DW7700 has been designed to provide unsurpassed performance for even the most bandwidth-intensive applications. The DW7700 supports two simultaneous Local Area Network (LAN) subnets, providing the flexibility to handle new enterprise Internet Protocol (IP) networking requirements. In addition, the DW7700 supports integrated serial connectivity, thus providing the ideal solution for bridging legacy applications into an IP environment.

The DW7700 uses the industry standards, DVB-S and DVB-S2. As a result, the DW7700 can be easily configured to support a wide range of downstream data rates, giving international service providers a great deal of flexibility in designing their service plans.

Another key benefit of the DW7700 is the ability to scale the platform as the need for higher speed applications grows, protecting the user's investment well into the future. The DW7700 also coexists with all previous generations of DirecWay systems ensuring existing customers' investments are protected.

Kaul continued: "The DW7000 product family is the most recent example of HNS' commitment to continuous innovation. As the leader in broadband satellite solutions, it is important to listen to customers and help them to unlock the value of broadband. The DW7000 product family does just that."

Going wireless...

CapRock Communications has expanded the reach of its broadband global satellite services with a new offering that integrates an MPLS-based backbone network with the latest in Wi-Fi technology. The new service, known as Wireless IPxpress, enables CapRock customers in remote locations to connect laptop computers, Personal Digital Assistants (PDAs) and other broadband hungry wireless devices back to the corporate network – despite being thousands of miles away.

"This is much more than just an Internet 'hot spot' connected to a satellite link," said CapRock Vice President (VP) of Marketing and

Product Management David Myers. “Wireless IPxpress combines standards-based 802.11b/g technology with our exclusive IPxpress architecture and global satellite services to create an enterprise-class wireless local network connection that has been designed exclusively for extreme environments.”

The new service will enable customers to benefit from CapRock’s Follow Me Networking over a wireless LAN, something previously available only through a wired Ethernet connection.

“Many of our customers have roaming personnel that frequently move across their remote locations or fleet of vessels,” Myers explained. “Wireless IPxpress allows those personnel to move from any site in the CapRock network to any other and use their wireless card to link securely to their corporate network – all without any reconfiguration of IP addresses or telephone numbers. This is particularly useful for many of today’s wireless IP devices that cannot support a traditional Virtual Private Network (VPN) session but still need a secure corporate connection.”

“While CapRock is primarily a global satellite services provider, we have a strong background in systems integration,” Myers said. “As a result, we are able to provide much more than just broadband communications. Wireless IPxpress is a great example of CapRock’s ability to develop new services and create value beyond basic voice, data and video communications.”

Using fibreoptics…

Foxcom , a division of OnePath Networks, has recently introduced the System 951, C-Band RF optical interfacility link. The System 951 joins other members of Foxcom’s industry leading fibreoptic interfacility link products including, L-Band, IF and serial data. The System 951 provides full support for C-Band; uplink frequencies from 5.80 to 6.650GHz and downlink frequencies from 3.40 to 4.20GHz and meets Intelsat Standard A requirements.

The System 951 maintains Foxcom’s leadership in offering cost effective fiberoptic interfacility links for the satellite industry. Foxcom’s advanced fiberoptic technology reduces the attenuation, slope, phase shift, and group delay, maintaining extremely low levels over distances of up to 15 kilometres. The C-Band’s link state of the art lasers produce negligible chirp and optical distortion; critical for long distance links. Manual gain at the transmitter and receiver site allow for system optimization according to the application. As with all Foxcom interfacility fiberoptic links, LEDs, back panel alarms and monitors are provided indicating system health and interfacing with third-party M&C systems.

“We were thrilled to be releasing our System 951 product at the Satellite 2004 show. The System 951 was driven by our customers’ requirement for a cost effective and high performance way to transmit C-Band. There are a number of ‘on-frequency’ C-Band transmission schemes but they are often expensive and limited in distance. We believe that operators will like our lower cost and yet high performance solution which also works seamlessly with our other fiberoptic interfacility products,” said John Murphy, Director, US Operations.

… and in the seas

Nera, the global provider of wireless and satellite communications solutions, has launched the first communications system combining the DVB-RCS broadband over satellite standard with a unique antenna for use at sea. The Nera SatLink Marine will provide superyachts and merchant ships with a communications solution matching the performance of terrestrial broadband.

The Nera SatLink Marine is based on technology originally designed for fixed broadband satellite services. It has been tailored specifically for maritime use through the combination of the Digital Video Broadcast - Return Channel via Satellite (DVB-RCS) broadband over satellite standard and a unique stabilised antenna platform. This makes the Nera SatLink Marine the first product of its kind on the market.

The Nera SatLink Marine delivers a host of communications services, including voice over IP telephony, file transfer and Internet browsing. Vessels can also make use of video conferencing or stream Internet radio while at sea.

Two pilot customers have trialled the Nera SatLink Marine for a three-month-period and given Nera very positive feedback. “This system really delivers top quality communications”, says Chief Officer Kaj Joar Skarshaug onboard the MS Century, a Norwegian-registered, 29,588m^3 gas carrier. “We enjoy the same broadband data performance as if we were sat in an office downtown.”

Nera has already received orders for several dozens of the Nera SatLink Marine for installation during the spring and summer. Compared to alternative proprietary systems, the Nera SatLink Marine is more compact, with only a 1.25 m radome. It also offers cost-efficient and high-quality broadband IP due to the DVB-RCS standard’s efficient use of satellite capacity. The unique antenna module on the Nera SatLink Marine ensures consistent performance even during the roughest of conditions at sea.

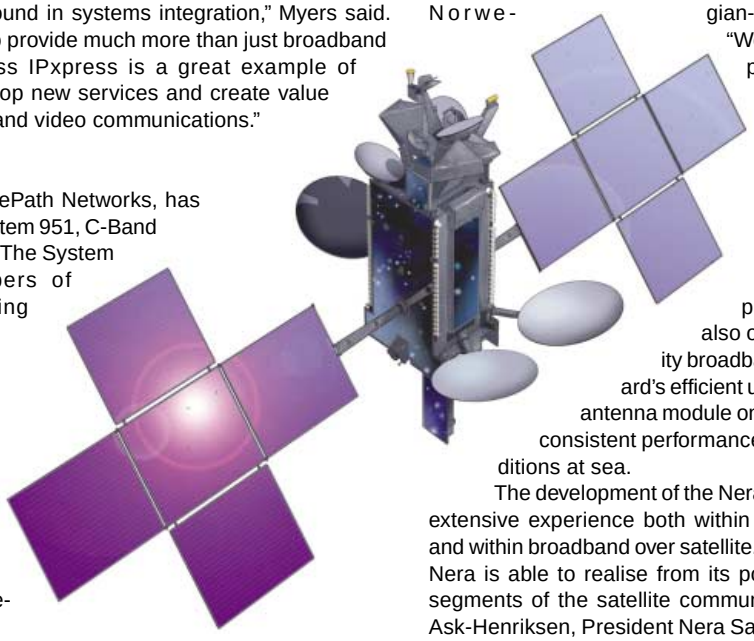
The development of the Nera SatLink Marine leverages Nera’s extensive experience both within mobile satellite communications and within broadband over satellite. “This demonstrates the synergies Nera is able to realise from its position at the forefront of several segments of the satellite communications industry,” remarks Terje Ask-Henriksen, President Nera SatCom, a wholly-owned subsidiary of Nera.

Meanwhile in the region

The Asia-Pacific region is one of the most interesting regions in the world for satellite activity. Attracted by the massive potential represented by the combination of huge populations and economies growing at sustained rates, Asia is an area in which VSAT companies from all over the world are eager to do business.

Surfin’ Malaysia

ViaSat has finalised a contract to supply its SurfBeam broadband satellite networking system to Smart Digital Communications Bhd in Malaysia. Smart will use the system, the first of its kind in Asia, to provide enhanced satellite managed services and networking operations for a new service called Triple Play that will bring video, voice and high-speed Internet to homes and small businesses in Malaysia. Under this contract, ViaSat will supply a hub and 5,000 Ku-band satellite terminals for the project. The value of the contract is over US$5.75 million and the installations are scheduled to be



An artist’s impression of the IPSTAR-1 satellite. The IPSTAR programme is set to revolutionise the VSAT sector in the Asia-Pacific region.

> "During emergency situations ... VSAT communication is vital to co-ordinate involved parties in an effort to reduce life and economic losses."

completed by the end of 2005.

"Smart Digital chose the ViaSat SurfBeam technology because its innovative approach to broadband satellite communications will maintain both cost and performance as we grow these large networks," said Khairuddin Abd Rahman, President and Chief Executive Officer (CEO) of Smart Digital. "In our country, satellite networking has a pivotal role and we need to complement our government commitment to provide broadband under the National Broadband Plan. We are focusing on technology that delivers a true cost-effective and high-quality service level to the customers who will support a successful business model."

"We are honoured to be chosen again by Smart Digital and value their trust in our ability to deliver technology and services that will enhance their leadership in delivering broadband services throughout Malaysia," said Feroz Khan, ViaSat Regional Director for Southeast Asia.

SurfBeam not only provides lower cost consumer satellite modems, but also delivers high efficiency in using satellite bandwidth, saving bandwidth costs and allowing more users to share a given amount of bandwidth. The system is based on the open standard of terrestrial cable modem networking, called Data-Over-Cable Service Interface Specifications (DOCSIS), but includes additional networking technology to match the unique characteristics of satellite transmission. Since the DOCSIS broadband networking standard is already used by millions of terrestrial cable customers, the technology is highly developed and low-cost in terms of modem chipsets, hub (headend) hardware, self-installation, and customer support systems.

Forestry in China

Weida Communications, Inc., a US managed telecommunications operator in China, has announced that Guangzhou Weida Communications Technology Co., Ltd., of which it has control and a majority profit-sharing interest, has been selected by the Forest Fire Prevention Office of the State Forestry Administration of China as the designated services provider for its nationwide emergency communication system.

During the next two years, Weida will provide the Forest Fire Prevention Office with mobile satellite equipment in the form of three trucks and approximately 180 mobile VSAT backpack units. The trucks will be outfitted with a complete telecom network that will be used when the system is out for a sustained period of time. Weida is to begin developing the system this month, with initial completion scheduled for May 2005. Upon completion, the contract, which includes the sale and leasing of satellite equipment, could generate annual recurring revenue of approximately $1.2 million a year over the next three years.

During emergency situations, ground communication is frequently damaged and disrupted, and therefore, reliable and effective VSAT communication is vital to co-ordinate involved parties in an effort to reduce life and economic losses. The Forest Fire Prevention Office's current system, which has not been upgraded in over 12 years, uses outdated two-way radio communication. Weida will provide an upgraded communication system that can send and receive voice, data, Internet and two-way video, which allows for monitoring and assessing emergency situations more effectively. Under the new system, the Internet is utilised to transfer medical data, dispatch equipment requirements and critical information in a more efficient and effective manner.

Additionally, Weida will equip the fire towers throughout China with video surveillance devices to more efficiently monitor activity 24 hours a day.

"We selected Weida, over four satellite equipment and service providers, because it was the only company in full compliance with our requirements. Coverage and innovation are important factors for our organisation and we believe that Weida, with its technology and experience, is best able to meet these demands," said Du YongSheng, head of the Forest Public Security Department of the State Forestry Administration, PRC. "Weida's products and services were chosen for a number of reasons, including cost-effectiveness, faster setup and connection, more stable performance, higher transmitting speed, user-friendly operation, video broadcasting and a nationwide network. We look forward to working with Weida and believe that the introduction of VSAT technology will prove to be an important one."

"This is a significant corporate milestone for Weida, as it allows the company to build a solid base to expand in China's emergency communication market," said Mitchell Sepaniak, Chief Executive Officer (CEO) of Weida. "Weida is extremely proud to be working with the Forest Fire Prevention Office and we are pleased to satisfy the requirements of the organisation. Our experience and knowledge in the Chinese emergency system played a major role in this contract award. The company's breadth of product and service offerings continues to pay dividends as demand for VSAT telecommunications in China continues to be gaining momentum."

Flying high in China

PolarSat Inc. has recently announced the appointment of Li Jiang, Regional Director, as the Chief Representative of PolarSat's Beijing Representative Office. Jiang brings with him many years of experience in the satellite telecommunications industry, in China as well as in the US and Canada.

Jiang's appointment, following so closely the award of a major VSAT contract to PolarSat by the General Administration of Civil Aviation of China (CAAC), signals PolarSat's commitment to expand its global presence in the satellite telecommunications solutions marketplace" states Marc Lupien, Executive Vice President (VP) Sales and Marketing. "PolarSat Inc. will continue to provide superior solutions and service in China and will be expanding its direct sales and services team in the region.

The CAAC network will take advantage of PolarSat's VSAT*Plus II* system to connect the ATMB headquarters offices and regional centres in a full mesh network. All sites will support a complex mix of voice and data communications. ■