FRIENDSHIP's floating hospital ships

VSAT connectivity in Asia

The demand for always-on connectivity has expanded across the globe in recent years, with requirements for narrowband and broadband applications in remote, underserved and mobile locations comprising a large proportion of the market. The massive growth in satellite capacity has resulted in a significant price drop, making very small aperture terminals (VSATs) a viable solution for many industries and regions for the first time. Accordingly, uptake has ballooned in much of the world. Here we take a look at recent VSAT market developments in Asia.

While very small aperture terminal (VSAT) adoption is growing across the board, in recent years we've seen a massive increase in uptake by mobile operators, including maritime, aviation, and oil and gas. Another area with major market growth, is providing connectivity to remote areas, including much of Asia.

According to Research and Markets' *'Global Enterprise VSAT Market 2015-2019'* report, the global VSAT enterprise market is expected to reach US$4.23 billion by 2019, while the number of enterprise VSAT terminals in service will hit 3.87 million. The Asia-Pacific region was the second-largest contributor of the global VSAT enterprise market in 2014, with growth stemming from affordable broadband, increasing data quantities, and government initiatives for connected schools, notably in India, Australia and Thailand. Meanwhile, Research and Markets' *'Global Maritime VSAT Market 2015-2019'* report has forecast a CAGR for the global maritime VSAT market of almost eight percent until 2019, with an additional 5,000 vessels expected to install Ka-band terminals

in the five-year period. Growth is attributed primarily to the desire to install high speed Internet on board.

The number of companies active in the VSAT area is huge thanks to the strong market growth. From capacity providers like SES and Intelsat, and equipment vendors like iDirect and Comtech EF Data, through to service providers such as Marlink and Globecomm, every company has their part to play. However, today the boundaries between the roles is becoming blurred; there are now satellite operators offering their own managed services, for example. This blurring has raised competition for operators and service providers alike, making any new foothold in the market extremely valuable.

Marlink consolidates VSAT branding and expands presence
Its been a big year for Marlink. In June 2016, the company united its entire global VSAT services portfolio, including its WaveCall and Pharostar brands, under its well-established Sealink brand. Sealink provides VSAT services on Ka, Ku
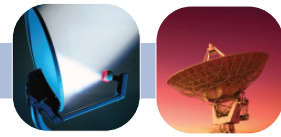
and C-band, and plans to add high throughput satellite (HTS)-based packages and seamless integration with value-added services like Xchange and SkyFile in the future. In the same month, the Sealink VSAT service became globally available via 60cm Ku-band antennas, so it can now provide global VSAT capabilities for the thousands of vessels that don't have space for larger, heavier antennas.

Marlink also won several lucrative new deals during the year. Software and services company Palantir contracted Marlink to implement the KeepUp@Sea IT operational platform on 110 vessels of one of the world's largest shipping companies, CMA CGM. KeepUp@Sea will standardise, simplify and automate vessel IT-management, improving the efficiency and security of CMA CGM's IT operations. KeepUp@Sea monitors all hardware and software on board a vessel and throughout a fleet, allowing on-shore IT staff to detect and address issues remotely and pro-actively.

Meanwhile, John T. Essberger (JTE) Group decided to migrate the primary communication systems of its entire fleet to Sealink, with the installation on 22 chemical tankers and nine dry cargo vessels expected to be completed by the end of the year. The higher bandwidth and cost control will enable JTE Group to deliver new crew communication facilities and introduce streamlined processes for ship/shore data transfer. All vessels will also be equipped with the XChange communication management system to manage the fleets'

IT and communication tasks via a single, integrated platform. JTE Group will manage its voice, VoIP, and data connectivity for corporate and crew usage and also utilise the Universal Remote Access (URA) function of XChange to keep full control of its onboard IT network from shore. All vessels will be equipped with two voice lines and Wi-Fi access points to allow crew to connect with their own personal devices.

"Crew welfare is vital to the safe and efficient operation of our vessels and we believe that the speed and reliability of Sealink VSAT will help us to introduce a more effective service for Internet access and calling home," said Capt. Bernd Schlarmann, Fleet Manager Ship Management, JTE Group. "With more bandwidth available globally, we will also be positioned to streamline vessel and port operations, which will directly benefit our customers, in terms of more efficient handling of their cargoes."

SpeedCast expands VSAT connectivity at sea
SpeedCast International is a major player with its managed global VSAT service, and is particularly strong in Asia, as demonstrated by the large number of new contracts it has won there this year.

In April 2016, SpeedCast and Beijing Marine Communications and Navigation Co. Ltd. (MCN) signed a memorandum of understanding (MoU) for a strategic partnership to integrate MCN's VSAT network in the Asia-

Pacific with SpeedCast's global VSAT network, providing global connectivity to the maritime industry. As part of the deal, SpeedCast will assist MCN to expand its infrastructure to provide coverage in the South China Sea, which will be integrated into SpeedCast's global network.

"MCN has a strong leadership position in the Chinese market and together we will be able to provide high quality broadband services to their customers globally. This partnership may also expand into other mobility markets where both companies will be able to leverage each other's strengths," said Pierre-Jean Beylier, CEO of SpeedCast.

July 2016 saw SpeedCast win a multi-year service agreement to provide fully managed VSAT network services to 18 wellsite locations in China. It is the third major services agreement with the unnamed customer in 12 months, and SpeedCast's first deal with an energy customer in China. The agreement will enable the customer to better manage resources and streamline operational processes by working with SpeedCast across three continents.

Meanwhile, in August 2016, SpeedCast won two major contracts for VSAT connectivity at sea. The first was a multi-year service agreement for an unnamed oil and gas exploration customer's offshore sites in Malaysia. SpeedCast will provide managed VSAT network services for the customer's central processing platform (CPP) and its floating stage and offloading (FSO). The CPP and FSO will share bandwidth dynamically with stringent quality of service (QoS) control, enabling efficient allocation of bandwidth to mission critical applications across the sites.

The second deal was also a multi-year service agreement, with MMA Offshore, a marine service provider in the Asia-Pacific. SpeedCast will provide global Ku and C-band high throughput connectivity to enable MMA access to business applications, data and voice services for crew and clients on board its fleet. Prior to the deal, MMA used a mixture of satellite services from a number of providers, but, according to MMA's ICT General Manager Jon Fowler, the company needed an integrated and flexible approach going forwards.

"As our business and supporting technology evolve, there is an increasing need for high speed, stable and flexible communication systems to facilitate business critical processes and applications, as well as satisfying our crew and customer requirements," said Fowler. "The global presence is a great advantage to us as we can streamline our daily operations, improve safety and generate cost savings."

SES collaborates with FRIENDSHIP and launches new hybrid service

In addition to operating one of the world's largest satellite fleets, SES S.A. also offers managed services, including its own global VSAT network that provides Ku or C-band connectivity.

In March 2016, SES and non-governmental organisation (NGO) FRIENDSHIP, with technical assistance from Square Informatix Ltd, launched the first state-of-the-art maritime VSATs on three of FRIENDSHIP's floating hospital ships: Lifebuoy Friendship Hospital, Emirates Friendship Hospital and Rongdhonu Friendship (formerly the Rainbow Warrior II) Hospital.

SATMED, the newly-deployed satellite-based e-health platform, will enable FRIENDSHIP to establish communications with national and international doctors from remote areas, to provide medical counselling to marginalised communities through telemedicine, and to exchange medical knowledge with local doctors. SATMED is an IT-enabled cloud infrastructure accessible around the globe that facilitates data exchanges between professionals and medical frameworks such as electronic medical records and teleradiology systems. The SATMED project is funded by the Luxembourg Government and implemented in cooperation with SES Techcom Services and e-Medical Communication (eMC).

"SATMED gives us a tool by which we are able to bring in specialised services of e-learning, special doctors, specialised back office resources, decisions of problems and ethical decisions, all this can be centralised and the same message can be given organisation wide," said Runa Khan, Founder and Executive Director of FRIENDSHIP in Bangladesh.

In April 2016, SES Techcom Services, a wholly-owned subsidiary of SES, delivered a donated VSAT antenna to be installed on the Emirates Friendship Hospital as a donation to FRIENDSHIP.

Meanwhile, June 2016 saw the launch of SES Enterprise+ Hybrid Broadband in Asia, powered by Gilat's SkyEdge II-c Libra. The solution will enable customers to deliver cost effective Internet connectivity to underserved areas and improve download speeds. The service is provided through Gilat's hybrid VSAT terminal, which uses the existing terrestrial network for the return channel and allows the download via SES-9. The solution offers download speeds of up to 20Mbps and is ideal for mobile network operators that want to offload congested traffic networks and offer higher data rates, as well as for DTH providers that want to venture into the triple play of Internet, television and telephony. According to Ferdinand Kayser, Chief Commercial Officer at SES, the satellite-cellular-terrestrial hybrid approach represents a huge opportunity for Asia.

KVH: Leading the market in maritime VSAT connectivity

In 2015, KVH Industries was named as the market leader of maritime VSAT networks by 'COMSYS Maritime VSAT Report,
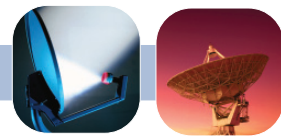
4th Edition, March 2015.' KVH shipped more than 6,000 TracPhone V11-IP satellite communications antenna systems for its mini-VSAT broadband network during the entire year.

"More ships rely on KVH's mini-VSAT broadband network than the next two maritime VSAT providers combined, and our growing customer base and satellite capacity are testimony to our forward thinking approach to technology and services," said Kits van Heyningen, CEO of KVH.

In a testament of KVH's market-leading service, February 2016 saw Singapore's Byzantine Maritime Gas Pte. Ltd. select KVH Industries to provide TracPhone V11-IP antenna systems with mini-VSAT broadband service for its new fleet of liquefied petroleum gas (LPG) carriers.

"We chose KVH for its global coverage and fast data speeds, which are essential for our modern fleet to be able to operate as efficiently as possible," said Captain Belal Ahmed, Director of Byzantine Maritime Gas. "We also find it very important to have a tool such as the myKVH portal, which provides valuable vessel positioning, data control, and fleet management for us."

The TracPhone V11-IP provides dual mode C/Ku-band global coverage with up to 4Mbps downlink and 1Mbps uplink speeds. It has CommBox Network Manager built in to provide least cost routing and connection-specific firewall rules. Part of the service includes the myKVH portal, which provides tools to configure the onboard network, monitor vessel positioning, obtain vessel data usage status, and allocate data usage to individual users or tasks onboard. This portal was developed by KVH to meet the maritime industry's need for a bandwidth management tool, and is a key component in enabling Byzantine Maritime Gas to manage its usage-based monthly airtime plans.

Kacific starts first VSAT network service in Vanuatu

Kacific is a new satellite operator founded in 2013 to provide high speed Internet to enterprises, agencies and remote communities in the Pacific Islands. The company plans to launch a Ka-band HTS in 2018 in cooperation with another operator. In April 2016, Kacific opted for the Newtec Dialog® multiservice platform to provide interim affordable satellite broadband connectivity over Ku-band.

"Our aim is to deliver fast, accessible and affordable direct-to-premises broadband connectivity to areas where other types of connectivity are absent, substandard and unaffordable, as is often the case in the Pacific," said Kacific's CEO, Christian Patouraux.

The platform was initially used to deliver Internet connectivity to a number of schools in the Republic of Vanuatu, but has since been expanded to consumers, enterprises and other public institutions.

In July 2016, Kacific launched a high-speed broadband connection (up to 17Mbps) to the rural Lambubu area on Malekula Island in Vanuatu, via a VSAT terminal located at Lambubu Primary School, marking Kacific's first active VSAT service. "The computer lab at Lambubu School will in future develop into a government service centre, providing Internet and educational and health services to the wider community. This connectivity will provide previously unheard of educational opportunities for the children, as well as improving health outcomes for all villagers," said Patouraux.

In the same month, the Maewo Telemedicine Network at Naviso Village on East Maewo opened as part of the Vanuatu Inter-Island Telemedicine and Learning Network (VITAL) pilot project, in which Kacific is a major partner. Shortly after the system came online, it was used to save the life of a new mother experiencing medical difficulties following the birth. A nurse at the Naviso clinic, Steven Tahi, was able to speak with Dr Basil Leodoro, who provided advice from a secondary location, enabling Tahi to find a solution and return the mother to full health. Leodoro said that, during his first telemedicine encounter, being able to actually 'see' the patient was such an improvement to voice only.

Globecomm launches Globecomm VSAT service

Globecomm has long designed and integrated VSAT networks and terrestrial distribution systems for training and corporate communications networks around the world. In March 2016, the company launched full commercial availability of its new iDirect-powered Globecomm VSAT service. The new service provides 'industrial strength' connectivity for fixed and mobile assets, for both narrowband and high throughout applications, including M2M and industrial IoT applications, we well as solutions for voice and video.

The new service combines Globecomm's global teleport service, extensive fibre connectivity and iDirect's advanced coding and network management techniques, to provide an end-to-end managed service. Coverage includes the major ocean shipping routes and land mass on five continents. The iDirect Evolution platform supports automatic beam switching and access to HTS, Ku, Ka and C-band satellite services. According to Globecomm's SVP of Corporate Strategy, Jon Kirchner, the new service allows Globecomm to provide, "the industry's most ubiquitous global broadband capability for maritime and land-based enterprise, government, critical infrastructure and telecom customers."

Prior to the full launch, German ship operator Briese Schiffahrts was one of the first companies to trial the new service. Briese was so impressed that the company has decided to roll it out to additional ships.

"Globecomm VSAT has proven to be an extremely reliable service and has enabled us to provide our crews with increased and more cost-effective access to Internet and voice services. Globecomm's Nimbus managed service platform enables the crew to surf the Internet, and their Access GSM service allows the crew to make and receive voice calls using their own handsets," said Holger Börchers, IT Manager for Briese. ∎

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