



MARITIME BROADBAND

INTERVIEW

Jean-Yves Le Gall, President, CNES

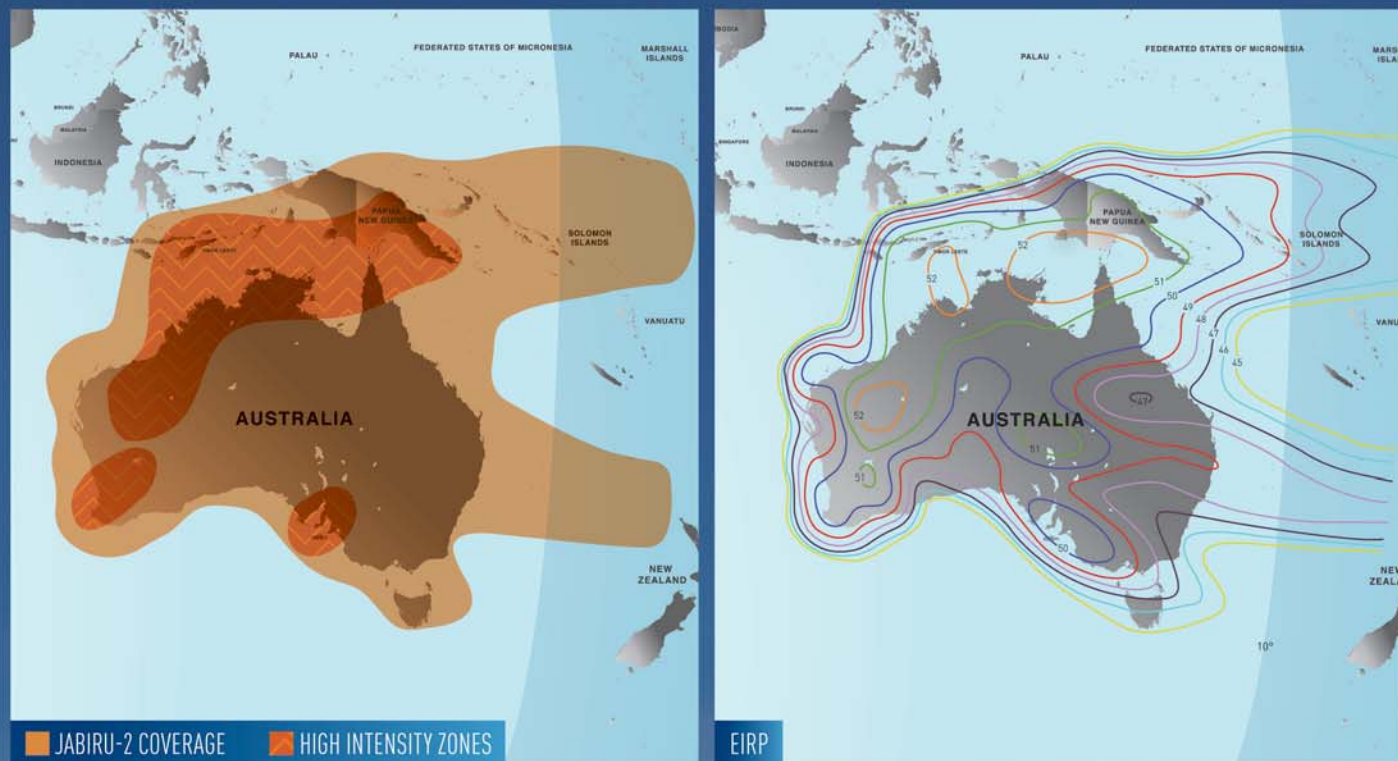
FOCUS ASIA

HTS Supply and Demand Trends for the Asia Pacific



Q1
2014
NEWSLETTER
www.apscc.or.kr

Jabiru-2 Launching May 2014



216 MHZ KU-BAND CAPACITY

HIGH-POWERED AUSTRALASIA COVERAGE

HIGHLY FOCUSED CAPACITY OVER THE PILBARA,
AUSTRALIA'S MARITIME DOMAINS, TIMOR LESTE AND PAPUA NEW GUINEA

IDEAL FOR OIL, GAS, MINING, MARITIME, AERONAUTICAL, MEDIA, CARRIER-GRADE
TELECOMMUNICATIONS AND GOVERNMENT SECTORS



More information about
Jabiru-2 or newsat.com/jabiru-2

All images are for illustration purposes only. Satellite coverage zones and technical specifications are subject to change and are for general guidance only. Terms and conditions apply. For more information go to newsat.com or call +61 3 9674 4688. ©2014 NewSat Ltd ABN 12 003 237 303.

NewSat
Global Satellite Solutions



CONTENTS

1st Quarter 2014 • Volume 20 • Issue 1 • ISSN 1226-8844

03 MESSAGE FROM THE PRESIDENT

04 FEATURES: MARITIME BROADBAND

- 04 New Opportunities Ahead for the Global Maritime Communications Market
- 08 O3b Delivering Superior Broadband to the High Seas
- 14 Plotting the Future of Maritime Mobility

20 INTERVIEW

- 20 Jean-Yves Le Gall, President, CNES

26 FOCUS ASIA

- 26 HTS Supply and Demand Trends for the Asia Pacific

32 SATELLITE TRENDS

- 32 Cost-Effective Shipboard Video Chat: Achieving Maximum Performance from Minimum Bandwidth

36 APSCC MEMBERS

38 EVENT REVIEW

- 38 APSCC Session at PTC'14

40 SATELLITE INDUSTRY NEWS

43 CALENDAR OF EVENTS

44 ADVERTISERS' INDEX



China Satellite Communications Co. Ltd.

China Satcom, Connect you with the world.

ChinaSat 5D

ChinaSat 5C

ChinaSat 5A

ChinaSat 5E

ChinaSat 6A

ChinaSat 6B

ChinaSat 9

ChinaSat 10

ChinaSat 11

ChinaSat 12

www.chinasatcom.com

Add: No.59 Houchangcun Road, Haidian District, Beijing, China / Tel: +86 10 82798299 / +86 10 82798268
/ Fax: +86 10 82798299

MESSAGE FROM THE PRESIDENT



Now, mobility service is the most growing satellite application and attracting focus of industry attentions. Most typical mobility service is a cellular phone service which is not widely provided directly by satellite yet. But satellite backhaul link for cellular service is widely used in the world and still increasing. It is reported that No.1 satellite transponder usage in Asia is cellular backhaul application and No.2 is video transmission/broadcasting.

Other mobility service which is now growing is satellite broadband service for ships or airplanes. Maritime service used to be provided using so-called MSS band (L/S) only. But new maritime service using FSS band (C/Ku/Ka) under ESV (Earth Station on Vessel) regulations had been introduced to cope with higher broadband demand which cannot be handled by usual MSS band because of the narrower bandwidth allocated.

So did the same thing in aeronautical services. In early 2000, Boeing started so-called CBB (Connexion by Boeing) flight broadband service using Ku-band. Unfortunately this service had been stopped because of the insufficient demand, may be related to the airline business slowdown caused by "September 11" event in 2001, but actually it is because of the immature market situations.

Right now, market situation has been changed dramatically since introduction of smartphones and tablets. In 2007, iPhone was introduced and next year Android based smartphones were also

introduced. In 2010, iPad was introduced and subsequently many kinds of tablet devices were introduced. In these days, these smartphones and tablet devices are so popular and widely used in all over the world. Back in early 2000, those who are expected to use maritime and aeronautical broadband service on ship or airplane as a passenger are limited to those business persons who carry laptop computers and had specific needs to connect to the Internet by business reasons. But nowadays, almost every passenger on either a cruise ship or airplane brings smartphone or tablet device of its own and wants to connect to the Internet to communicate with its family or friends. This situation is creating vast broadband communication demand for both ships and airplanes, thus transponders capacity demand to provide such services.

In order to cope with this vast demand, some international large operators are introducing so-called HTS (High Throughput Satellite) mainly targeting at mobile applications, like O3b, Global Express, Epic^{NG} and so on.

I believe that the "keyword" for the growth of satellite business in coming years will be "Mobility Service".

Yutaka Nagai
President, APSCC

New Opportunities Ahead for the Global Maritime Communications Market

Why the maritime communications industry will average 7% annual growth over the next decade

Wei Li, Senior Consultant, Euroconsult

In 2013, the global maritime satellite communication market achieved 4.5% growth in operating terminals and a 10% increase in revenue at the satellite operator level. Growth mainly resulted from increasing data usage from vessels, installations for newly-built ships and previously untapped markets, migration to higher capacity, higher revenue generating systems, and adjusted pricing strategy of certain satellite operators. The generally unfavorable macroeconomic environment for the shipping industry has not significantly affected the satellite communication market thus far.

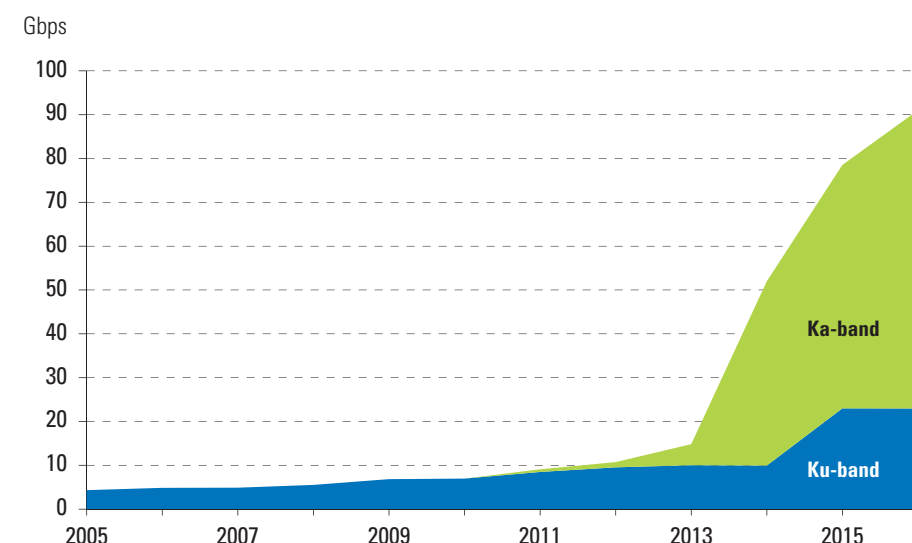
The Mobile Satellite System (MSS) broadband services such as Inmarsat, FleetBroadband, and Iridium OpenPort/Pilot have been growing at 65% CAGR for revenue and 35% CAGR for terminals in the last three years. The maritime VSAT (Very Small Aperture Terminal) business has also shown strong growth over the last few years, starting in Northern Europe and subsequently spreading worldwide very quickly. The number of VSAT maritime terminals has increased significantly, with a CAGR of 13% over the last three years. The major growth driver is the Ku-band VSAT, representing approximately 74% of the maritime VSAT market in 2013.

The Asia-Pacific region in particular is the key growth engine for the market. The region has important merchant shipping routes connecting Asia with Europe, Africa, the Middle East, North America, Latin America and Oceania. Intra-regional maritime traffic is also very important. Besides merchant shipping, Asia-Pacific is also a leading region for offshore oil and gas activity. Cruise ship and superyacht activity are also increasing at high speeds. It is estimated that the Pacific and Indian Oceans together represent between 50% and 60% of the global maritime transportation traffic. Euroconsult estimates that in 2013, Asia represented approximately 50% of global satellite capacity used in maritime.

New applications drive data usage

Applications used in maritime satellite communications have changed dramatically from basic voice and low-data applications used in safety applications to fully integrated IP applications providing Internet access, audio and video streaming, and integration of the ship into corporate networks.

GROWTH OF SATELLITE CAPACITY AVAILABLE IN MARITIME REGIONS



Maritime Telecom Solutions by Satellite - Euroconsult © 2014

An increasing number of end-user applications used at sea are IP-based and require more bandwidth than legacy voice applications. Standard Web applications designed for terrestrial networks are not usually optimized for satellite connections and can prove to be inefficient and expensive when using MSS. Therefore, value-added service packages and supporting software solutions are critical for system efficiency. The cost of bandwidth on VSAT systems might be less of an issue for the end user; however, certain issues remain, such as latency that could cause problems when using standard software.

Automation is also another important trend in the maritime industry. Shipping companies are seeking new ways to have fewer people on-board in order to reduce cost. The integration of remote maintenance applications is a solution to save time and money and justify investments in additional satcom systems. E-commerce and other real time information-based applications drive the maritime market in beneficial ways for satellite communication solutions, including MSS. Commercial ships and fishing vessels require real-time information about market prices, information systems to adapt routes, ports of destination, also opening the opportunity to sell fish stock while the ship is still in transit.

M2M and asset-tracking solutions are gaining popularity in maritime markets as they become less expensive and easier to use. Moreover, an increasing number of value-added services are offered through low-data-rate terminals, helping ship owners to increase safety, security, and operational efficiency. Typical applications include geo-location information, machine surveillance, surveillance of various conditions (such as temperature and speed), SCADA (supervisory control and data acquisition) and ship identification services used for AIS or LRIT. However, M2M is considered a value-added service and equipment market, rather than a capacity business. Nevertheless, it is expected that when improved services have been adapted to the needs of the maritime environment, terminals, service revenues, and data capacity will provide attractive market opportunities.



Maritime Telecom Solutions by Satellite - Euroconsult © 2014 

Maritime satcom is no longer only about connectivity

In the past, satellite operators and service providers have focused on connectivity and were not directly involved either in content delivered through connectivity or applications running over the networks. In 2013, several initiatives from leading players in the market show that content and applications will also be integrated into connectivity service for the maritime sector. This past May, KVH acquired Headland Media Limited, a media and entertainment services company providing commercially licensed news, sports, movies, and music content in the maritime, hotel, and retail markets. Inmarsat also has plans for the service enablement platform (SEP) that will include an application hosting infrastructure over its future Global Xpress Ka-band network as well as the current FleetBroadband L-band networks. By the end of 2013, Inmarsat had approximately 75 certified application providers, including Microsoft.


The addition of contents and applications into the service portfolio could help satellite operators and service providers make a difference in competition, generate ancillary revenues, and drive more usage of connectivity. Content such as movies, news, and sporting events broadcasting are increasingly demanded

by crew members. The acceptance of such content over satellite mainly depends on the pricing strategy and quality of the content. The acceptance of applications seems more challenging since it will take time to find the exact needs of the crew. Professional applications will require shipping companies to adopt the applications and integrate them into existing operations.

A current trend is observable in the convergence of satellite technologies with the introduction of hybrid L- and Ku-band terminals in an attempt to overcome the data volume and speed issues of MSS and coverage and reliability issues of Ku-and Ka-band maritime VSAT. Some equipment manufacturers and service providers even add a terrestrial component (such as VHF, GSM and 4G) to the terminals, applying a least-cost routing system based on system availability.

The supply market will change drastically in the next 12 months

As one of the fastest-growing markets, the maritime communications sector has attracted more and more investment in satellite capacity. A large number of recently launched and planned satellites have extended coverage and optimized capacities for water areas. One of the most important projects is Intelsat Epic which is designed for mobility, and is expected to bring 10 times more capacity than traditional satellites. A more sophisticated project is Global Xpress which is run by the dominating maritime satellite operator Inmarsat.

In the next 12 months, the launch of these new satellites will significantly change the landscape of the satellite supply over ocean regions. Total available C-, Ku- and Ka-band FSS capacity is expected to increase from 15 Gbps in 2013 to 52 Gbps in 2014 and 91 Gbps in 2016. Looking forward into the future, Euroconsult expects that the maritime satellite communications market will grow by 6% in terminals and 7% in revenue at satellite operator level in the coming decade. In particular, the growth in VSAT will be over 10% in both terminals and revenue. 



Wei Li is a senior consultant at Euroconsult since 2007 and Editor of the following research reports: Maritime Telecom Solutions by Satellite, Prospects for Inflight Entertainment and Connectivity, Aeronautical Telecom Solutions by Satellite, Mobile Satellite Communications Market Survey, and Company profiles: Analysis of FSS Operators.

O3b Delivering Superior Broadband to the High Seas

Simon Maher, Vice President, Global Enterprise Sales, O3b Networks

Bringing broadband quality connectivity to the high seas has long been a Holy Grail for service providers.

The experience of internet connectivity on board ships and other maritime based installations such as offshore oil rigs, has traditionally been substantially poorer than on land.

The pent-up demand for such connectivity from cruise ship operators and other corporates continues to grow.

And still, no operator has been able to develop a technological solution to this problem.

Until now.

A maritime revolution has arrived, thanks to O3b Networks. The next-generation satellite network for telecommunications operators, Internet service providers, enterprise and Government customers in emerging and underserved markets, is closing this aspect of the digital divide.

O3b is delivering broadband to the high seas, by utilizing its unique technology.

This means a dramatic change for corporates operating in a maritime environment, as well as individuals who find themselves at sea, either for work or for pleasure.

As any experienced traveler will tell you, the seaborne experience today is pretty basic. If you have any connectivity at all, it is likely to be extremely slow and very expensive. This rules out almost all business or leisure applications.

Historically, at sea connectivity has been delivered over GEO satellite bandwidth that is expensive and has a built in delay because of the distance from the earth to the satellites.

This distance means latency - the amount of time it takes to load a web page, or to run online retail, standard business applications, social media, and streaming videos - is very long, making for an insanely frustrating experience.

O3b is delivering land-based high speed broadband to the high seas through its constellation of small high throughput satellites, bringing high speed, nearly unlimited capacity at previously unheard of, affordable prices. The O3b satellites are much closer to earth, reducing build and



Fiber In The Sky...

Connects The Unconnected

O3b's customer, Telecom Cook Islands share their experience on the O3b service:

"FAST! Ultra fast internet service arrived to the Cook Islands - thanks to O3b. We experienced almost instantaneous downloads, smooth YouTube clips, live sport, streaming movies, clear and crisp video calling and fast browsing for the first time ever. We were honestly blown away by the speed. O3b's claim that they deliver 'fiber from the sky' has been proven correct for us here in the Cook Islands - thousands of kilometers away from the nearest large land mass or undersea cable. We are absolutely delighted with the service."

Jules Maher, CEO, Telecom Cook Islands.

**In service
2014**

Find out what O3b's customers are already saying about the low latency, high bandwidth, affordable satellite solution to connect to the rest of the world.

O3bnetworks.com





launch costs. O3b satellites operate in a Medium Earth Orbit (MEO), a quarter of the distance from the earth that traditional geostationary satellites orbit. The shorter distance from earth's surface means significantly lower latency.

The O3b constellation provides nearly unlimited capacity, as more satellites can be launched as demand requires. Designed with a global reach, the constellation's architecture uses steerable Ka-band spot beams on each spacecraft to communicate with a ground segment capable of tracking the orbiting satellites, seamlessly handing off from one to another as they pass slowly overhead.

For maritime customers, O3b's steerable beams actually track a ship. O3b's satellite beams follow the ship on its normal route and maintain the ship within the beam centre. O3b receives latitude/longitude updates on two hour intervals via in-band or out-of-band channel.

O3b's beam tracking actually updates in real time if the ship has to change course.

The company's first four satellites are operating and performing beyond expectations. They recently completed a successful live test of broadband voice and video on a 4G/LTE mobile wireless network. The interoperability testing, conducted on behalf of O3b by OCEUS Networks, shows that O3b's innovative MEO satellite constellation supports the low latency required on cutting edge 4G/LTE technologies.

Interoperability testing was conducted between the Oceus Networks Xiphos 4G/LTE mobile network equipment through the O3b Gateway in Lurin, Peru. In the tests, the O3b network supported latency sensitive 4G traffic, with round trip latency over the satellite link below 150 msec and successfully executed voice and video calls under all conditions.

Testing from O3b's Hawaii gateway to the Cook Islands and streaming 800Mbps error free data, each way clearly showed the network is delivering a great customer experience, allowing Skype and YouTube videos with zero delay or degradation. This demonstrates how well the O3b system works.

So, what does this fantastic technology mean for those at sea?

Well, for example, cruise passengers will be able to make the kind of voice calls we take for granted on land. Similarly, live posts on social media sharing vacation and bragging rights immediately with friends and family will become de rigueur. As will streaming Skype and video.

Similarly, remote use of business applications will open the sea to the large business conference markets.

On-board IT can also provide all status and monitoring data required for efficient operation and support crew welfare with adequate affordable broadband capacity.

O3b*Maritime* is the first-of-its-kind broadband solution capable of providing cruise ship guests and crew with more than 100 times the average Internet access capacity at sea. It is the only satellite system enabling cruise line guests and crew broadband services on par with onshore telecommunication standards. As such, it is the ultimate connectivity solution for cruise ships.

O3b*Maritime's* high-speed service to cruise ships uses the latest in advanced stabilized tracking antennas and high-speed modem technology.

This solution is transforming the on-board experience for guests and crew with unprecedented and unrivalled levels of connectivity and performance.

O3b believes in a world where affordable, high-speed connectivity is always within reach, whether on land or at sea. On shore, the days of voice communication as the primary means of staying connected are long gone and the same is now true at sea.

With increasing competition in the cruise market from luxury shore based resorts, cruise line operators are under pressure to provide broadband services to their guests without the sort of performance compromise necessitated by today's maritime solutions.

The majority of guests on cruise vacations cannot afford to be cut off from the rest of their lives, whether staying in touch with the office, keeping friends and family posted on Facebook or watching a live stream of the latest play-off final.

With O3b*Maritime*, guests receive a truly immersive broadband experience. Existing 3G and 4G devices work as seamlessly at sea as they do on land. Voice calls carried over O3b's low latency network are crystal clear with no delay. Network response is ultra-fast and all applications, however bandwidth hungry, are supported.

Business Executives can access their work email, download files and stay connected, allowing a genuinely relaxing break without the fear of being out of touch.

By allowing an effective work environment while at sea, O3b*Maritime* opens up the multi-US\$ billion Conference & Event market to cruise ship operators in a whole new way. Conferences, retreats and seminars will now be supported on-board with the same level of service offered in the most upscale of shore-based hotels - blending an offsite work experience with enjoyable downtime. This will allow cruise ship operators to better serve the needs of event organizers and the industry at large.

For Cruise Operators, O3b*Maritime* provides unlimited bandwidth to support customers. No need to block high bandwidth applications - in fact they are encouraged. The experience of the hotel industry is that customers are willing to pay for good connectivity services. Moreover, state-of-the-art performance encourages longer calls, increases data usage and drives increased revenue for operators. Integrated on-board SIM cards can be offered, supporting international roaming and providing cruise operators access to a valuable additional revenue stream.

O3b*Maritime* revolutionizes the operation of the ship's IT infrastructure, saving costs and freeing valuable on board real estate. With connectivity speeds of over 500Mbps and round trip latency of less than 150msec, real time data transfer is enabled, offloading expensive and resource intensive services and data storage from cruise ships.

Finally, crew welfare is assuming increasing importance with cruise operators where happy and loyal crews often make the difference between good customer experiences and bad ones. The ability to attract and retain highly skilled crew is heavily influenced by their digital experience on-board.

O3b continues to book a steady stream of customers, drawing interest from both the government and private sector clients. One of the most innovative deals signed to date is with cruise





Steve Collar, O3b CEO with Adam M. Goldstien, RCCL President and CEO at official signing ceremony


operator Royal Caribbean for whom O3b will train a 700-km-dia. spot beam on their 8,000-passenger cruise ships, Allure of the Seas and Oasis of the Seas.

A true technology innovator, Royal Caribbean Cruises are the first to utilize O3b's maritime offering O3bMaritime, delivering the reach of satellite and the speed and latency of fiber at a fraction of the cost of conventional providers. O3b is enabling maritime service providers to offer affordable fiber-like capacity across the Caribbean and ocean regions around the world. Providing unparalleled bandwidth, O3b's steerable satellite beams will provide cruise industry passengers ultra-fast Internet communications throughout their voyage.

RCL will lead the market in being the first to use the O3bMaritime product to deliver all entertainment, productivity and social commerce guests and crew current get on land and expect, but haven't had, on-board.

The cruise operators' target markets - families, the business community, young professionals - all demand connectivity and services on a par with shore based resorts and, if this can be guaranteed at sea, profitable revenue streams will be tapped.

Furthermore, fiber-like performance on-board allows operators to maximize the benefits of hosted cloud based services, reducing on board IT real-estate and infrastructure and driving down operating costs. Premium business and entertainment suites featuring hundreds of TV channels, music broadcasts, movie download, streaming and 3G/4G ship to shore communications are the minimum requirements but often overwhelm existing satellite based solutions.

On the high seas, only O3bMaritime provides a range of benefits that do not exist on satellite-based solutions today. The next maritime revolution has begun. 



Simon Maher is Vice President of O3b Networks Global Enterprise Sales, where he is responsible for leading the strategy, growth and direction of the company's Energy and Maritime sectors.

Prior to joining O3b Networks, Simon held the position of Vice President of Sales (2005 to 2008) at Alcatel-Lucent where he led the Global Vodafone Backhaul Business Unit in deploying a converged IP/MPLS Core and Edge Network, enabling the evolution to all IP mobile backhaul across Vodafone's affiliates. This project formed a key component in Vodafone's global network strategy in the transformation to IP based networking.

Simon has more than 15 years' experience in the telecommunications industry focusing on mobile operators and service providers. This experience has been accumulated throughout various strategic sales management roles within Alcatel Lucent & previously at Newbridge Networks.



Always innovating with an eye to the future

SKY Perfect JSAT is Japan's only satellite operator.

With 16 satellites covering Japan, Asia, Oceania and North America, we are the largest satellite operator in Asia.

We play an important role in fields as diverse as multi-channel pay TV, SNG, internet backbone, cellular backhaul, maritime and disaster recovery services. We will continually use new and creative ways to aggressively expand our global reach.

**SKY Perfect JSAT Corporation
Space & Satellite Business Group**

<http://www.jsat.net/en>

Plotting the Future of Maritime Mobility

Terry Neumann, Director, Market Strategy, iDirect

Steady technology improvement continues to transform the operational environment for maritime vessel operators worldwide. Many have already turned to VSAT broadband networks to improve ship-to-shore communications, boost business productivity and address crew welfare, but ample opportunity remains in both existing and new maritime markets.

With forecasts pointing toward greater adoption of VSAT broadband across maritime in the coming years, service providers find themselves ideally positioned to refine their offerings in order to better capitalize on the coming opportunities. COMSYS forecasts that the number of vessels relying on VSAT as their primary means of communications will expand to more than 26,000 by 2016, with market revenues exceeding U.S. \$1.2 billion.

Today the majority of VSAT adoption in maritime has been by high-end segments like cruise, offshore oil and gas, and super yachts. But much of the opportunity for maritime mobility remains untapped. While various maritime segments have begun to look at VSAT, they have yet to invest in VSAT service based chiefly on the high cost of bandwidth.

High Throughput Satellites (HTS) look to change the economics for deploying VSAT broadband, driving down the unit cost of service and providing greater bandwidth for the same price. This should ultimately lead to broader usage of VSAT broadband in existing markets, given higher bandwidth applications and the rise in overall network activity. In addition, HTS will open up opportunity for customers in markets that have been slower to adopt, as they will finally be able to justify the cost to fit the requirements of the network.

As one example, higher throughput, global coverage and affordable equipment would provide an opportunity for the adoption of new applications in commercial shipping. Commercial shipping could be considered an emerging segment, and a number of large companies have already deployed VSAT solutions. Yet, there is still a large portion of this segment that has not made the switch to VSAT. Vessel operators in this market view the use of VSAT not only as a way to boost crew welfare, but also as an opportunity to improve productivity and operational performance of the ships via applications like electronic charting and weather, remote IT services, and electronic port and customs documentation.



Innovation You Can Count On

GEOStar™ Satellites

The Right Solution



The Market Leader for Small to Medium Satellite Missions

- Better Value
- High Reliability
- Shortest Delivery Schedule

For more information on Orbital's innovative space systems visit our website at www.orbital.com

Lower cost hardware and flexible services could also increase demand for VSAT usage within more niche markets like industrial fishing fleets. Operators in this segment may now be able to justify the cost to implement a VSAT solution through applications that improve operational efficiency like the online sale of catches or better fuel efficiency through engine management or increased crew health and productivity using telemedicine.

VSAT broadband is ideally suited to deliver high-value services across the maritime market, yet its smooth passage forward remains limited by factors such as the cost of bandwidth and hardware, as well as the ability to install and support in an efficient manner. All such factors place new requirements on different members of the satellite ecosystem.

HTS and other infrastructure developments present the opportunity to address such requirements. Focusing in particular on service providers, HTS means a greater need to integrate bandwidth across multiple beams in various frequency bands on a worldwide basis, while also supporting legacy deployments alongside new solutions. Envisioning the big picture, HTS presents additional capacity with multiple ways to tap into this capacity. As such, satellite service providers have multiple options to help respond quickly to the new opportunities presented via HTS—and to grow affordably in the process.

Know the Approach

As HTS capacity comes to market, new business models will begin to emerge and need to co-exist with traditional business models. This will require new levels of sharing and collaboration with regards to

infrastructure, meaning service providers will need to be flexible in order to stay in best position, both now and in the future.

A significant decision involves the delivery of HTS services and choosing the operator model with which to align. With options ranging from globally integrated services to more regionalized managed-services approaches, it is vital to know the approach that best aligns with a service provider’s core business strategy for HTS.

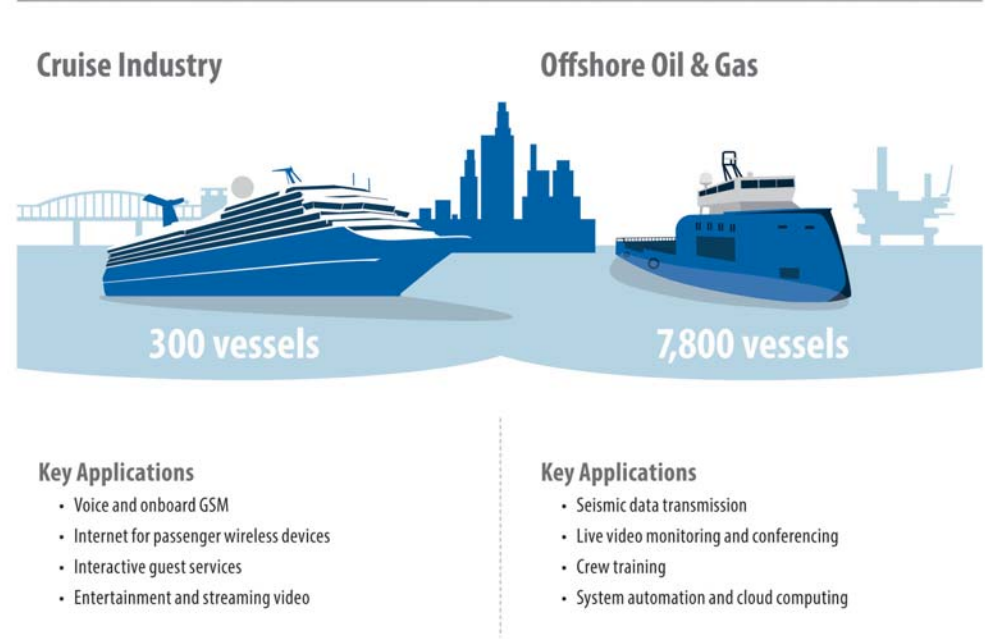
Speaking to the globally integrated services approach, Inmarsat’s Global Xpress (GX) is a prime example. This global Ka-band satellite system offers a vertically integrated end-to-end service. From the solution layer down to the infrastructure and hardware components, GX represents the full turnkey approach to HTS, helping to enable new sales opportunities for a wide range of distribution partners.

Intelsat’s Epic^{NG} is another option on the global-services approach. This high-performance, next-generation satellite system uses C-, Ku- and Ka-bands, creating a solution that combines wide beams, spot beams and frequency reuse technology for improved performance where it is needed. Epic^{NG} is also designed to be backwards compatible, enabling service providers to offer higher capabilities while maintaining value in their existing investment. Epic^{NG} establishes a complementary overlay to Intelsat’s existing satellite fleet and global IntelsatOne terrestrial network.

In the area of a regionalized approach, a prime example is Telenor’s THOR 7, equipped with 11 Ku-band transponders and a Ka-band payload. This will help meet the growing demand for broadband communications over Europe and across the North Sea.

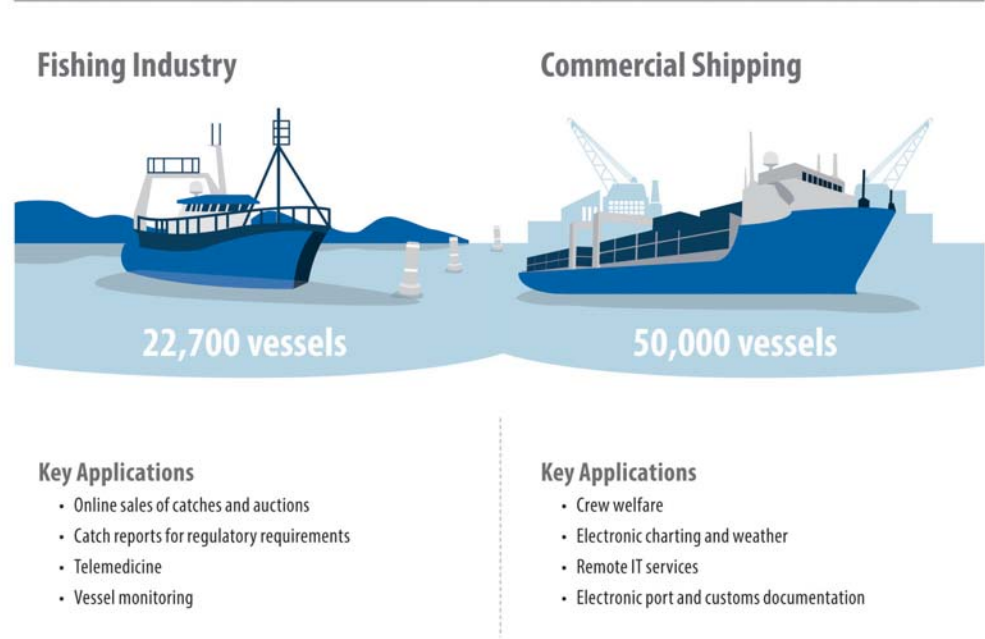
Growing Existing Markets

HTS should lead to broader usage of VSAT broadband in existing markets, supporting higher bandwidth applications and the rise in overall network activity.



Opening New Markets

HTS will drive VSAT growth in markets that have been slower to adopt, as they will finally be able to justify the cost to fit the requirements of the network.




Higher Performance Technology

Regardless of the operator model, iDirect is well positioned to enable new business models associated with VSAT broadband within the maritime market. Already the technology of choice for many of the major customers across this market and working with all the major operators, iDirect continues to develop its technology in order to take advantage of HTS.

The iDirect platform has expanded to meet the specific requirements of HTS, built for greater speed and scale, while maintaining value to our customers. iDirect's universal hub allows for the launch and scale of HTS networks allowing them to capitalize on their existing investment in iDirect infrastructure.

iDirect recently introduced the X7 remote, built on a new multi-core processor that enables much higher throughput over TDMA. The X7 has already been adopted by customers across cruise, yachting and off-shore oil and gas and is ready to help service providers deliver the data rates necessary to support high bandwidth for customers across all segments of the maritime market.

iDirect also has its eyes on the horizon, keenly focused on next-stage objectives that will have the most impact on the satellite market and the evolution of HTS. For example, topics like global roaming, which allows for terminals to roam across multiple service provider networks, or dynamic bandwidth management to provide expanded bandwidth to areas where it is needed. It is vital to engage in such conversations in the marketplace and continue to innovate.

But for the here and now, the satellite industry is working towards opening existing maritime markets to broader use of VSAT, while enabling opportunities in those segments that previously could not justify the cost of VSAT. The networks are becoming established, the technology fortified, and the options for creating new services plentiful. 

The High-Performance X7 Remote

iDirect's X7 remote is built on a multi-core hardware system to deliver high-throughput performance. The X7 features an 8-port embedded switch for managing multiple user groups and dual DVB-S2 demodulators with fully independent RF chains.



Terry Neumann is part of the market development team within iDirect. He focuses his time and resources on promoting and expanding the use of VSAT and iDirect technology in specific vertical markets. He has been supporting the maritime market for the past 6 years and works closely with a number of the top maritime satellite service providers in the industry that rely on iDirect as their primary platform for delivering differentiated services.

SATELLITE evolution ASIA



...your connection to the industry...

To register for your FREE issue please visit www.satellite-evolution.com



Interview with Jean-Yves Le Gall, President, CNES

In April 2013, the French government appointed Jean-Yves Le Gall as President of the Centre National d'Études Spatiales (CNES), the French space agency. CNES is responsible for proposing and implementing space policy in France. It is therefore involved in all aspects (Ariane, sciences, observation, telecommunications, defense) through four centers of excellence in Paris, Toulouse and French Guiana. CNES also represents France within the European Space Agency (ESA) and several other international organizations. It is the core shareholder in various commercial enterprises, including Arianespace.

Jean-Yves Le Gall has devoted his entire career to the European space program, holding positions within the French national scientific research agency CNRS, several French ministries, Novespace, Starsem and a first stint with CNES. He joined Arianespace in 2001, heading up the company until his appointment as President of CNES.

Q. Can you tell us a little bit more about CNES, its missions and main achievements?

A. Founded in 1961, the Centre National d'Études Spatiales (CNES) is the government agency responsible for shaping and implementing France's space policy in a European context. Its task is to invent the space systems of the future, bring space technologies to maturity and guarantee Europe's independent access to space. CNES is a pivotal player in Europe's space programmes (Ariane, Galileo, participation in the ISS, Meteosat and MetOp New Generation satellites, Copernicus, ESA's scientific satellites, etc.), and a major source of initiatives and proposals that aim to maintain France and Europe's competitive edge. It conceives and executes space programmes with its partners in the scientific community and industry, and is closely involved in many international cooperation programmes, the key to any far-reaching space policy.



launch smart





View of Paris by Pleiades

CNES's more-than-2,450-strong workforce constitutes an exceptional pool of talent, with some 1,800 engineers and executives, 35% of whom are women. Through its ability to innovate and its forward-looking vision, CNES is helping to foster new technologies that will benefit society as a whole, focusing on:

- Ariane: independent access to space is an issue of national sovereignty, guaranteed by the full range of European launch vehicles.
- Sciences: space exploration seeks answers to the fundamental questions of humankind about the origins of the solar system, galaxies and life itself.
- Observation: our planet is under constant scrutiny by satellites that observe it, study its atmosphere and provide crucial meteorological, oceanographic and altimetry data.
- Telecommunications: satellites play a vital role in such areas as broadband telecommunications, positioning, environmental data collection or search and rescue.
- Defence: very-high-resolution optical observation, electronic intelligence, ultra-secure telecommunications and space situational awareness all help to assure citizens' peace and security.

Q. What are your projects for the future?

A. 2014 is another busy year for CNES, starting with the launch by Ariane 5 of the French-Italian Athena-Fidus dual-use telecommunications satellite. It will provide in-theatre broadband communications for the military and security forces of both countries. The Galileo constellation, a joint programme between ESA and the European Union where France has invested heavily through CNES, will start to be deployed from Europe's spaceport in French Guiana, progressively making Galileo a reality. The Sentinel satellites of Copernicus, another joint programme of ESA and the European Union supported financially and technically by CNES, will start to be deployed this year too.

These events will highlight the new role of the European Union in space and show to the world that Europe continues to deliver in space, which is a very positive and promising message at this time. Later in the year, a rendezvous between ESA's Rosetta scientific probe and comet Churyumov-Gerasimenko will be observed by the entire world: Rosetta was launched 10 years ago by Ariane 5.

In the field of telecommunications satellites, electric propulsion is developing fast and CNES has convinced both the French government and its European partners that investments in this domain were needed, both in an ESA and in a national environment.

Preparing the future is also necessary if Europe is to remain at the forefront of the international launch services market: decisions will be taken in December at ESA level and CNES is playing a prominent role in laying the groundwork for these decisions, both for the permanent adaptation of Ariane 5 and the introduction of Ariane 6, reinventing the Ariane concept with a single-launch, cost-driven design, simpler operations and competitive pricing.

Q. Are you collaborating with Asian countries?

A. CNES and the broader spectrum of French stakeholders in the space sector have a long history of cooperation with almost all countries in this important region of the world.

Illustration of the satellite SARAL, a French-Indian program for the surveillance of the environment





Relations began in some cases more than 20 years ago, especially with Japan, with which cooperation between space agencies is very successful and is developing in a variety of scientific areas such as Earth observation or space sciences, as seen with our contribution to Hayabusa or BepiColombo with ESA.

With India, we have been working from the outset, with the launch by Ariane of the first experimental satellite developed by ISRO, more than 30 years ago. We have gone a long way together and we are very proud of our successful joint missions for climate and ocean studies, Megha-Tropiques and SARAL-AltiKa.

Our partnership with China has also made significant progress in recent years. We have two scientific missions in development, one for the study of the oceans, CFOSat, and the other for astrophysics, SVOM.

These relationships also encompass partnerships between French satellite manufacturers (Thales Alenia Space and Airbus Defence & Space) or Arianespace, the launch services provider, and local operators of telecommunication or Earth-observation satellites. In fact, French space players cooperate with all the countries in the region. These partnerships began in the 1980s and continue to grow with Japan, India, Korea, Thailand, Indonesia, Vietnam, the Philippines, Malaysia.

Q. How do you see the space sector developing in Asia in the future?

A. After the USA, Europe and Russia, the bulk of the space-related budgetary effort is nowadays concentrated on the emerging countries in Asia. Japan, China and India are the three major players driving space development in Asia, all of them possessing independent access to space and a portfolio of several applicative missions.

Like everywhere else in the world, there is growing demand in Asia for space applications: the area is prone to natural disasters and some regions cannot be easily equipped with terrestrial infrastructures for communications. And the quick growth of Asian countries increases the need for space solutions for the benefit of the end-users, in every area: telecommunications, Earth observation, satellite navigation systems... These applications bring added value both to public policies (meteorology, environment, urban planning, etc.) and to citizens. Moreover, they create jobs and wealth.

As demonstrated by China's human spaceflight program, the Japanese contribution to the International Space Station, and the launch of the Indian scientific probe to Mars, exploration is the next frontier, in Asia too. Europe and CNES look forward to cooperating with their Asian partners in this fascinating domain where ambitious goals can be more quickly achieved through international cooperation. 🚀

some people just love satellite



Here at talk Satellite we know your market, and how important reliable information is to the planning and running of your company. talk Satellite reports region by region, providing truly global coverage of the latest developments in satellite.

www.talksatellite.com

Receive talk Satellite Weekly Newsletter; circ@talksatellite.com

HTS Supply and Demand Trends for the Asia Pacific

Jose Del Rosario, Research Director, NSR

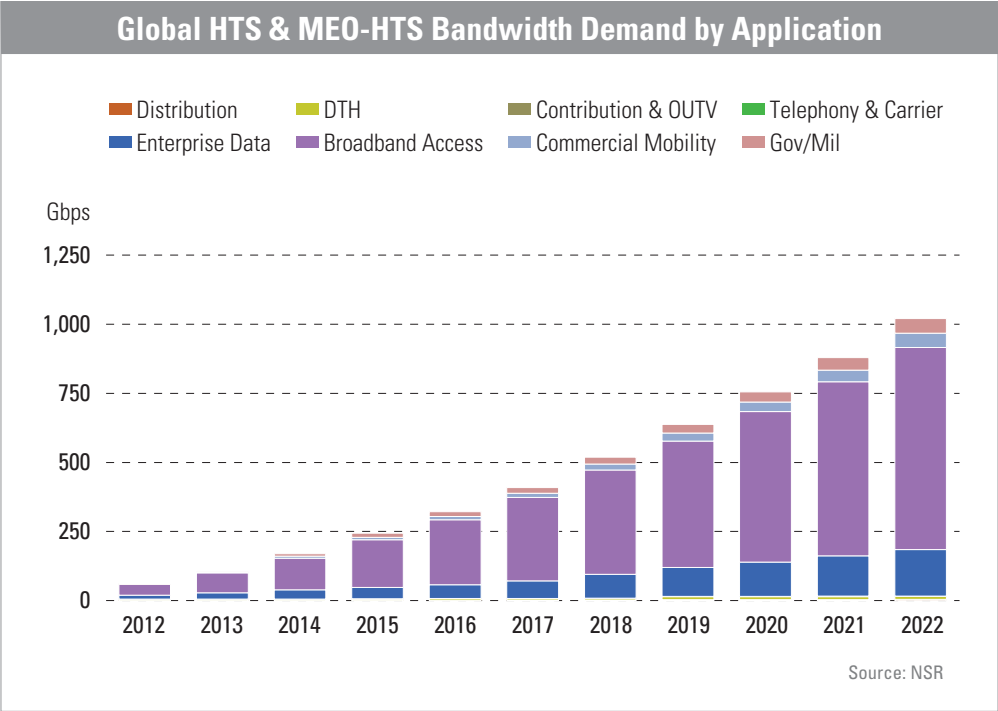
The High Throughput Satellite (HTS) market is still emerging in Asia as it is globally. The region is a fore-runner in the market with the deployment and advent of iPSTAR services almost a decade ago. With demand barely reaching a quarter of its potential nearly a decade after being launched, it is clear that new technologies and the risks associated with provisioning game changing solutions take time to devel-op and gain market acceptance. This is the case at least within the Asian satellite industry.

Going forward, however, it is NSR’s view that both supply and demand for Asia’s HTS market will increase at very high levels, indicating that the market will begin to transition from its current “emerging” status to being fully established. Indeed, the year 2014 is when NSR foresees the market changing in terms of development and evolution, taking a more solid and sustainable growth path over the long term. On the supply side, Asia should benefit from global as well as regional programs targeted for specific applica-tions and sub-regions with unique industry requirements.

Key Trends for HTS & MEO-HTS Bandwidth Demand

Globally, NSR estimates that leased HTS capacity increased at very high levels of over 40%, which could be regarded as typical in terms of emerging or nascent markets, while the wholesale revenue equivalent derived from the global HTS bandwidth market in 2012 was estimated to be nearly US\$215 million. Asia had a big impact on the global total given that there are only a few deployed programs and players in the globe, notably ViaSat, Echostar, Ciel, Telesat, Arabsat, Eutelsat’s KASAT, iPSTAR and others. iPSTAR is a major contributor and holder of market share where NSR estimated 19% of global HTS capacity leased for 2012 attributed to Thaicom.

For global HTS services over the long term, NSR forecasts HTS capacity demand to skyrocket to over 900 Gbps by 2022, while the emerging MEO-HTS segment (i.e. O3b) will add another 100 Gbps of leased capacity demand. The global picture is certainly encouraging given the relatively low market base of 2012 and relatively slight improvements recorded in 2013 compared to the market’s overall potential.



In terms of specific applications, the large majority of the forecasted bandwidth growth is expected to be for HTS capacity to serve Broadband Access services. This is a “high volume/low margin” business that requires large amounts of low cost bandwidth in order to maintain an acceptable service quality for sub-scribers. Of the over 1 Tbps of total HTS and MEO-HTS of bandwidth demand forecasted for 2022, about 73% will be solely for Broadband Access services. After which, a mix of cell backhaul, VSAT networking and IP trunking services will drive roughly similar quantities of HTS and MEO-HTS bandwidth demand globally within the Enterprise Data segment. The combined HTS and MEO-HTS segments could add another 168 Gbps of bandwidth demand to the worldwide satellite market in the coming years.

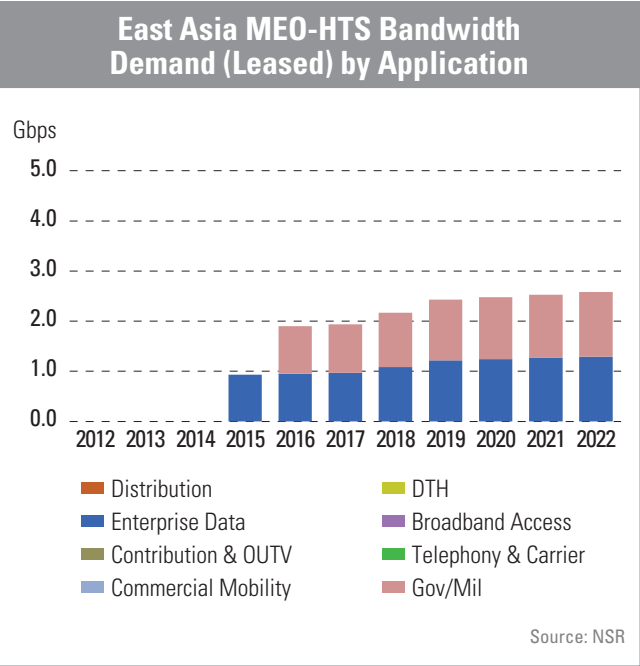
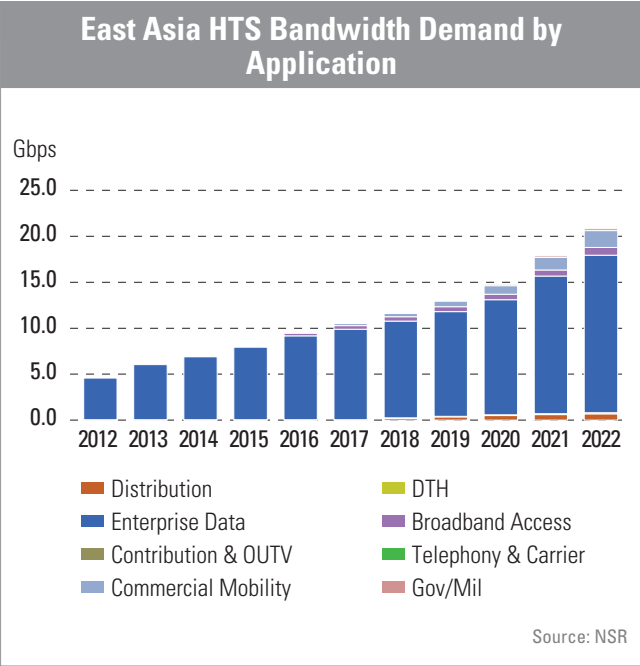
HTS and MEO-HTS capacity is also expected to compete for commercial and gov/mil mobility applications with NSR projecting that HTS services will generally have the upper hand in these markets in terms of bandwidth demand. These combined mobility services may generate more than 140 Gbps of capacity demand by 2022 in a very high value segment of the industry.

While very niche and speculative, NSR could also sees some media application demand, exclusively for HTS capacity, emerging in specific regional markets in the coming years for services like SNG, local chan-nel distribution for DTH, and national DTT bouquets.

The Asian HTS Market

How is Asia expected to perform in light of the big picture? Asia is the largest region in the globe and a market that is by no means homogeneous. In order to fully appreciate Asia’s demand and diversity, NSR segmented the region into three sub-regions: East Asia, South Asia and Southeast Asia.

Thaicom’s Thaicom-4/iPSTAR-1 satellite represented the only HTS capacity available in the East Asian

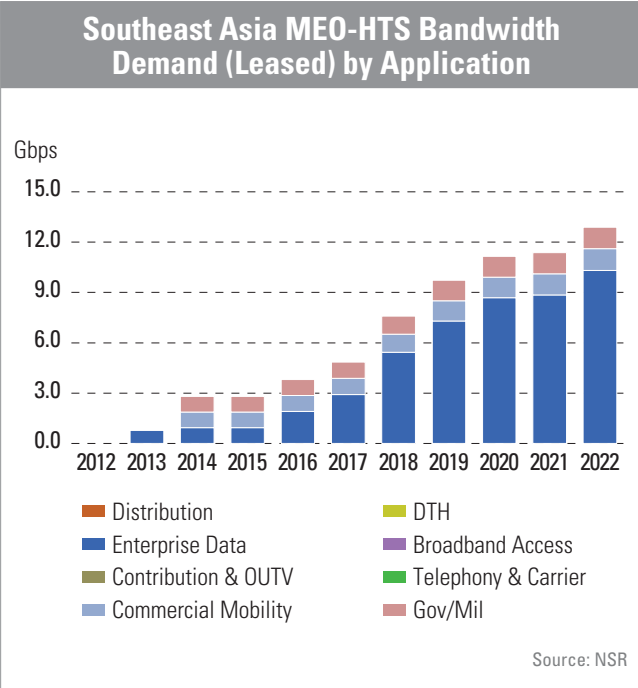
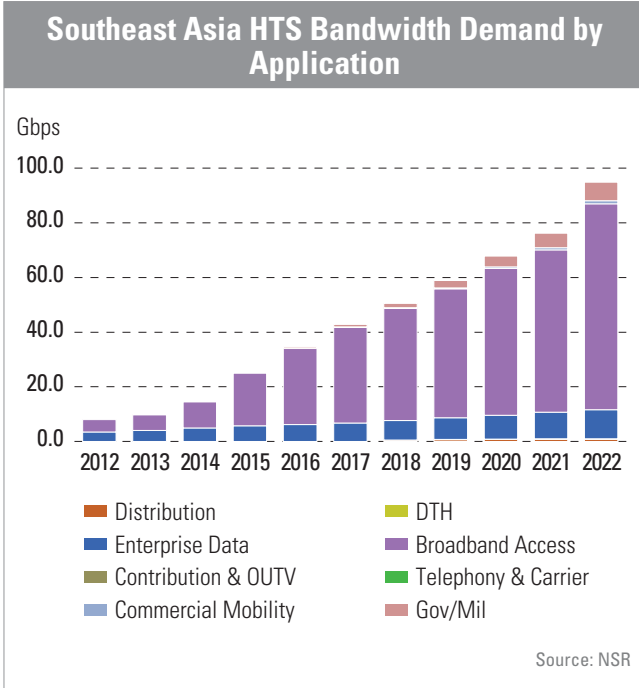
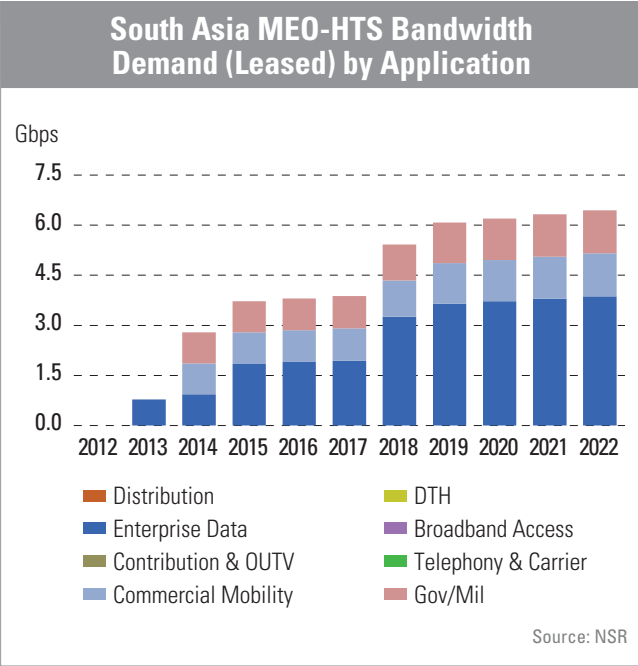
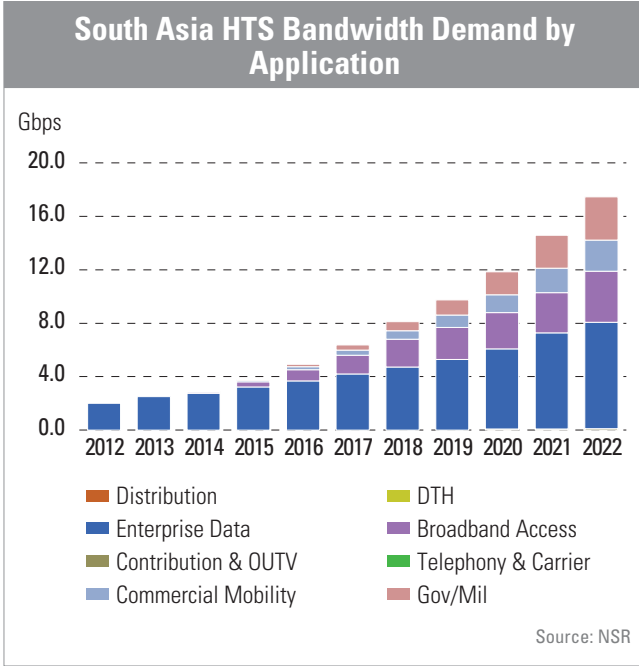


market, and its contract with SoftBank in Japan is likely to ensure the operator's HTS market share in East Asia for years to come. The recently finalized deal with China Telecom Satellite Communications Ltd. for the Chinese coverage of Thaicom-4 also guarantees that Thaicom will remain on top. Competition is on the horizon, however, from Inmarsat's Global Xpress service and Intelsat's EPIC satellites.

For East Asia, close to 23.4 Gbps of HTS and MEO-HTS capacity is expected to be demanded by 2022 driven and dominated widely by Enterprise Data. East Asia is not expected to follow global trends where the Broadband Access model of a "high volume/low margin" business is not expected to be the value proposition for HTS and MEO-HTS in the sub-region. This is the case given the high penetration of terrestrial technologies in key markets such as Japan, South Korea and over time, China. Although demand for Broadband Access should still exist, it will likely represent a very small percentage of the overall demand picture. Enterprise Data for networking and wireless backhaul services should drive growth, particularly as usage for high bandwidth mobile applications are expected over the long term.

In South Asia, Thaicom also remained the only company leasing HTS capacity by the end of 2012. Thaicom has an active gateway and the main client is Bharat Sanchar Nigam Limited (BSNL), understood as being used for backhaul and VSAT networking services. The situation changed in 2013 as demand began to ramp up on YahClick services in Pakistan. By 2014, Inmarsat's Global Xpress service should enter into commercial operation, notably for mobility services.

South Asia with India as the key country market is forecasted to demand 23.9 Gbps of capacity by 2022, which is slightly more than the capacity requirements of the East Asian market. Although similar in terms of total market numbers, South Asia unlike East Asia is expected to exhibit a more varied mix of application requirements. Enterprise Data is still expected to dominate similar to East Asian trends; however, other applications specifically Broadband Access, Commercial Mobility and Gov/Mil demand are expected to account for higher shares. This is the case given the lack of infrastructure and varied requirements the



region is expected to need within the next several years. This also means that South Asia should be ahead of East Asia in revenue terms given the higher prices and thus revenues attributable to mobility and gov/mil sectors.

- Finally in Southeast Asia, Thaicom will face competition with the launch of the Inmarsat-5 satellites, Intelsat's EPIC satellites, and the NBN Co. satellites over the 2014-2016 period. The Southeast Asian sub-region is forecasted to demand the highest HTS and MEO-HTS capacity in the whole of Asia at 107.8 Gbps by 2022. In terms of the application mix, Southeast Asia is the sub-region that is expected to follow global demand trends where Broadband Access is expected to account for 70% of overall

capacity requirements by the end of the forecast period. Due to the NBN program, Australia will likely account for the majority of the HTS broadband access capacity demand growth followed by New Zealand and Thailand. The lack of broadband infrastructure as well as the region's topology where other key markets such as Indonesia are comprised of thousands of islands will make it difficult, impractical and cost-inefficient to deploy terrestrial solutions.

- NSR's Bottom Line

Asia's total HTS and MEO-HTS supply is forecasted to reach 418 Gbps or roughly 41% of the global total by 2022. Asia's three sub-regions combined are expected to account for 155 Gbps of HTS and MEO-HTS demand by 2022, representing 15.2% of the global total.

In terms of the region's HTS and MEO-HTS fill rate, i.e. 155 Gbps of demand versus 418 Gbps of supply, this metric is estimated to reach just 37% by 2022. Is the region then expected to be oversupplied? The answer is yes.

Are the operators targeting the region expected to lose out on their HTS and MEO-HTS investments given the over-supply of capacity? The answer is no. Asian revenues attributable to HTS and MEO-HTS leases and services are expected to reach over US\$4.3 billion in cumulative revenues from 2012 to 2022. Moreover, the market needs or demand for capacity is expected to continue well beyond 2022 such that cumulative revenues will continue to accrue well beyond NSR's forecast period.

In fact, NSR expects other HTS and MEO-HTS ventures to add to the supply picture further exacerbating the over-supply condition of the Asian market. In the end, it is not really about the supply-demand imbalance that leads to decisions towards HTS and MEO-HTS deployments but rather on the return on investment (ROI) the opportunities can or will provide. In NSR's view, US\$4.3 billion in cumulative revenues and counting for Asia alone is a very sound justification for risk-taking in the HTS and MEO-HTS market by individual operators, market players and service providers. There will be price competition and impact on margins, but those are other areas where ROI considerations have to be taken into account. 📶



Jose Del Rosario is a senior member of the consulting team and conducts research in policy analysis, economic indicators, regulatory initiatives and end user demand trends. Prior to joining NSR, Jose worked with USAID/Philippines, Frost & Sullivan, the European Commission, the Malaysian Embassy, and the Law Offices of Irwin & Lesse. Jose holds an M.A. in Applied Economics from the American University, and a B.S. in Political Science/International Relations from the University of Santa Clara.

CommunicAsia2014

The 25th International Communications and Information Technology Exhibition & Conference

www.CommunicAsia.com

EnterpriseIT2014

The 11th International Information Technology Exhibition & Conference for the Enterprise

www.goto-enterpriseIT.com

17-20 June 2014
Basement 2, Level 1 & 3
Marina Bay Sands, Singapore

**Bridging Communication Borders,
Optimising Business Opportunities**



CommunicAsia / EnterpriseIT2014 presents...

3 new thematic NEXT Clusters –

NEXT Cities **NEXT Enterprises** **NEXT Connected Services**



Find out more by scanning the QR Code.

Power-packed line up of speakers at
CommunicAsia2014 Summit
to discuss on the latest industry's trend.

Exclusive and unique showcases / networking functions at companies' exclusive
hospitality suites
located at Level 3.

Comprehensive showcase of innovative technologies


4G / LTE, AR and innovations, connected home delivery network, FTTx, M2M, multi-screen technology, OTT and many others by
over 1,300 international exhibitors.

Pre-register your visit to the exhibition at
www.CommunicAsia.com/pre-registration NOW!

Organised by:

 **Singapore Exhibition Services Pte Ltd**

Worldwide Associate:

 **Overseas Exhibition Services Pte Ltd**

Incorporating:

SatComm2014

Held concurrently with:

BroadcastAsia2014

Cost-Effective Shipboard Video Chat: Achieving Maximum Performance from Minimum Bandwidth

Martin Killian, VSAT Product Manager, Globecomm Maritime

The promise of ever greater quantities of bandwidth and air-time is re-shaping maritime communications, but the constraints of satellite delivery mean that applications such as video and VOIP must still be optimised for end users.

Maritime communications have come a long way in a short space of time and the near future will see them go further at an even faster pace.

Demand for VOIP and video chat onboard ship is growing strongly but users need applications which are designed for use over satellite.



A new generation of High Throughput Satellites, supporting much higher bandwidth present new opportunities to maritime, energy and offshore users used to the reliable if unspectacular performance of L-band. HTS services, designed for mobility customers and theoretically offering connectivity at speeds close to land-based broadband, could finally usher in the connected ship; fully wired for data gathering, energy efficiency and crew welfare and enjoying always-on communication with the shore.

Even before the first HTS satellites are in service, the changes are already apparent. Just like their shore-based counterparts, officers and crews are being promised ever-increasing bandwidth and apparently unlimited data plans. A recent maritime industry communications conference heard an airtime distribution partner describe a crew email and internet service which had to be controlled not for web access but by time, in order that crew got their mandated hours of rest.

So the stage seems set for if not a revolution then at least continued evolution. A step change from sub-broadband communications speed to consistently available 512k-1MB services and above promises to open the door to a range of applications, moving the crew from phones and email to always on internet; replacing scarce shipboard data with structured information drawn from real-time monitoring and optimisation systems too. There are regulatory drivers; tracking, monitoring and electronic



Access Chat Crew and Access Chat Plus have been specifically designed to provide very high quality onboard VOIP and video chat experience.

chart updates and many potential value-adds; remote management and IT support, scheduling, weather services, VOIP and videoconferencing.

But in step with this evolution comes a short term risk; that air-time vendors and service providers are raising expectations beyond what can be delivered onboard ship in a cost-effective and practical manner.

The torrent of data that we experience ashore, to a growing variety of devices, has also forced the pace of application adoption onboard ship, principally because seafarers, not unreasonably, would like to do the things afloat that they do ashore. These include enjoying not just unfettered access to the internet but using applications for chat, voice and video calls.

As a result, this area of data traffic is booming, even as voice calling continues to decline. But the reality is that outside VSAT installations, it will be a long time before the vast majority of ships to experience anything like HTS throughput. Many may never do so. This may be good news for legacy L-band providers but for shipowners and their crews, there will be a long tail of demand not just for L-band but for applications which are specifically tailored for use over maritime satellite connections.

Demand for VOIP and video chat onboard ship is growing strongly. Ship visits by Globecomm Maritime staff often start with the



Greater adoption of communications has regulatory drivers such as tracking and navigation chart updates as well as many potential value-adds that can increase vessel efficiency.

crew asking if they will be getting video chat or instant messaging 'this time'. On one occasion, an engineer dispatched to work on the communications system was button-holed at the top of the gangway and the scuttlebutt made its way around the ship so fast that the rest of the crew had asked him the same question by the time he left.

But even though demand is increasing, no-one should imagine that such applications are designed for, or suited to, use onboard ship. Because they usually are free to download, the perception in the user's mind is that they are somehow free to use too.

In fact, the opposite is true. Using current voice and video chat programmes onboard ship over a data circuit will chew through bandwidth faster than you can reload a scratch card. In doing so it distorts airtime traffic figures, bolstering the impression that demand for crew data usage is virtually unquenchable.

The law of unintended consequences has contrived to create a situation where on a ship with more restricted bandwidth availability, the majority of traffic will be business communications. Install a VSAT or a larger Inmarsat access plan and the business portion diminishes as the crew make more and more use of the internet, chat and the like. But they will end up with much higher bills if they are paying for the access themselves.

So what's the way forward? It would be easy here to say that the



A new generation of High Throughput Satellites, supporting much higher bandwidth data transfer potentially present new opportunities to the maritime industry.

maritime industry is old fashioned and a lagging adopter of new technologies and leave it at that. But the fact is that mariners and managers alike want to be able to use these technologies.

Videoconferencing in particular has been touted for a decade or more as the solution for fixing technical problems without the need to dispatch an engineer to attend the ship. As a driver of crew welfare, the value of VOIP and video can hardly be denied.

It is Globecomm Maritime's contention that shipping will to some extent continue to be subject to severe limits on bandwidth compared to shoreside users. Therefore, to deliver anything like a shoreside experience, ships will need to work smarter with their bandwidth, using optimised hardware and software products that keep bills at reasonable levels while giving access to the services that users need.

In anticipating that the trend towards crew usage of voice and video over IP channels will likely continue, Globecomm has been examining how to make these services deliverable in a context that works for both shipowner and seafarer.

Two new Globecomm Maritime products, Access Chat Crew and Access Chat Plus have been specifically designed to address this obvious need, offering a very high quality VOIP and video chat experience which is specifically designed for shipboard use.

Access Chat Plus provides instant messaging, VOIP calling/conferencing and video calling/conferencing. Access Chat Crew provides the same capabilities, but in a package, design, and price point more suitable for the crew market.

Access Chat Crew and Access Chat Plus are very 'light' products both in terms of set up and data usage. Both applications are no more than 1Mb in size and can be installed easily and quickly on any Windows or Android device (an Apple operating system version is due in Q2 2013) or a USB stick, enabling them to be used across multiple devices. Both can be installed without the need for proprietary ship management software, making them convenient for crew.

Access Chat Crew and Access Chat Plus are not free and each user will require a licence key to use it. The key difference is that Access Chat Plus includes extra features and flexibility for the business class user, such as selectable bandwidth settings, file transfer, and multi-party chats.

There are a number of means of calculating data usage over VOIP, but below is a comparison between AccessChat and the most common VOIP application.

Data Consumption - Access Chat Crew versus Skype

Type of Chat	Access Chat Plus	Skype
Instant Message (Bytes per message)	310	744
Voice (Kilobytes per minute)	123	713
Video with Voice (Megabytes per minute)	1.04	8.43

Bandwidth usage over Access Chat Plus is configurable per user or customer and can be adjusted on the fly by the user. Access Chat Crew locks in the bandwidth at a maximum rate of 90 kbps for video calls, and 12 kbps on voice calls. A typical Access Chat Crew video call averages 72 kbps. For voice-only calls, a user will get the same quality as a typical land-based call but will use 10% of the bandwidth.

Access Chat Crew and Access Chat Plus are available in a range of pricing options for corporate and crew use, with customized pricing available when the service is bundled with Globecomm



Growth in data services ashore has forced the pace of adoption onboard ship, principally because seafarers would like to do the things afloat that they do on land.

Maritime airtime service contracts.

We have been hearing for at least a decade about the revolution in maritime communications. And it could be that for some users the HTS era will deliver them a much better internet experience at sea. But that revolution is not going to reach everyone. Many shipowners and managers will continue to keep bandwidth tied down and seek out highly specialised and optimised products to meet the demands of a new generation of crew.

We can be certain that the demand for better communications for bridge and crew will remain and grow. Now a solution that fits the need is available, affordable and practical, shipowners and manager need not deny their crew access, but instead put the right tools in their hands. 🚢



Martin Killian joined the Telaurus subsidiary of Globecomm in 2010 and has been the VSAT Product Manager of Globecomm Maritime since the brand was launched in 2011. Prior to that he was worked at France Telecom Mobile Satellite Communications and subsequently Vizada as an Account Manager and Director of Commercial Sales, Americas. Martin holds a Master of Science in International Business from Florida Atlantic University, as well as a BS in Marketing from FAU.

APSCC MEMBERS

Platinum Member



Gold Member



Affiliate Member



Regular Member (Governments)



Regular Member




Commercial Mobility Demand: Expanding the Bandwidth Paradigm for FSS and HTS APSCC Session at PTC'14



With the mobility segment taking hold in the VSAT market to address higher capacity demand, there will be stiffer competition when high-throughput satellites (HTS) start offering solutions that leapfrog FSS mobility offerings. However, there is a question whether there will be an easy transition for airplanes, ships and land-mobile platforms across both commercial and government segment who both struggle to address increasing bandwidth needs in an ever tightening fiscal environment. And customers need to decide on which technology they should rely on to address their evolving mobility needs.

With these questions, the Asia-Pacific Satellite Communications Council (APSCC) organized a session themed "Commercial Mobility Demand: Expanding the Bandwidth Paradigm for FSS and HTS" at PTC'14 on January 19th at the Hilton Hawaiian Village Beach Resort & Spa in Honolulu, Hawaii.

The Chair of the session, Christopher Baugh, President of NSR, provided an industry overview on "Commercial Mobility Demand" and a panel of industry experts including Terry Bleakley, Regional Vice President of Intelsat, Pierre-Jean Beylier, Chief Executive Officer of SpeedCast, Scott Sprague, Chief Commercial Officer of NewSat, Tian Seng Tan, Director of SingTel and Todd Hill, Director of Panasonic Avionics shared their experiences in the commercial mobility market and provided an outlook on how the introduction of HTS mobility offerings will affect the industry in providing new opportunities and expanding the horizon of vendors across the value chain. 



CommunicAsia2014 Summit

17 – 20 June 2014
Level 3, Marina Bay Sands, Singapore

Where the World of Communications Meet

Key Satellite Experts to Watch Out for



Deepak Mathur
Senior Vice President
Commercial
SES



Adrian Ballintine
Chief Executive Officer
Newsat



Tom Choi
Chief Executive Officer
Asia Broadcast Satellite



Pierre-Jean Beylier
Chief Executive Officer
SpeedCast



Patompob (Nile) Suwansiri
Chief Marketing Officer
Thaicom



Lim Kian Soon
Head, Satellite
Singapore
Telecommunications
(SingTel)

Speaker Highlights



Erez Antebi
Chief Executive Officer
Gilat Satellite Networks



Imran Malik
Vice President APAC
O3b Networks



Serge Van Herck
Chief Executive Officer
Newtec



David Bruner
Vice President of GCS
Business
Panasonic Avionics



Sandeep Kumar
Head of Satellite
Telstra Global

Join us this **18 June - 19 June 2014** where the **Satellite Communication tracks will discuss strategies to tackle competitions and VAS, a debate on whether HTS platforms will be successful and determining the priorities and forecasts for VSAT services in Asia.**

Key topics include:

- How is the intensifying competition from satellite operators and terrestrial networks affecting the customers and competitors – what can be done?
- Is HTS another example of evolution in the satellite industry, or a game-changing revolution?
- What are the key success factors for mobile backhaul for moving to 3G-4G/HTS?
- How are VSAT service providers creating services to meet today's communication needs and support changing future requirements?
- Advancing aeronautical: The rise of inflight connectivity
- Making the most of mobility: How is the VSAT industry capitalising on the rising demand for maritime satcoms?

11 Key Tracks Not to be Missed

Broadband – Where is the Demand?

The Future of LTE and Spectrum Allocations in Asia

NEW Monetising Fiber Broadband For Your Business

Satellite Competitions and HTS in Asia

NEW Satellite Mobility Solutions to Drive Market Growth

NEW Digital & Social Disruptions

NEW Stand Out in the Competitive Digital Business World

NEW Mobile Banking, Payments and Wallets

The Cloud Has Arrived – Now What?

NEW Consumerisation of the Enterprise – BYOD vs CYOD

NEW Big Data & IoT – The New Competitive Edge for Your Business

Track Sponsor: **SIEMENS**

Co-Presenters: **APSCC**  **talk Satellite**

Held Concurrently:

Enterprise IT2014 17 - 20 June 2014
Marina Bay Sands, Singapore

Broadcast Asia2014 17 - 20 June 2014
Marina Bay Sands, Singapore

Incorporating:

SATComm2014 17 - 20 June 2014
Marina Bay Sands, Singapore

Organised by:

 **Singapore Exhibition Services Pte Ltd**

Worldwide Associate:

 **Overseas Exhibition Services Ltd**

Hosted by:

 **IDA** 

A Part of:

 **ALLWORLD EXHIBITIONS**

SATELLITE INDUSTRY NEWS

Ariane 5 ECA Orbits ABS-2 and Athena Fidus

February 7, 2014 - Arianespace carried out the 58th successful Ariane 5 launch in a row, orbiting two telecommunications satellites: ABS-2 for the operator ABS and Athena-Fidus for Telespazio, on behalf of the French and Italian space agencies. The ABS-2 satellite was built by Space Systems/Loral (SS/L) using the LS-1300 platform. It will be positioned in geostationary orbit at 75 degrees East. Fitted with C, Ku and Ka-band transponders, it will provide telecommunications, direct-to-home (DTH) broadcasting, multimedia and data transmission services for Africa, the Asia-Pacific, Europe, the Middle East, Russia and the Commonwealth of Independent States (CIS). Athena-Fidus (Access on Theatres for European Nations Allied forces - French Italian Dual Use Satellite) is a French-Italian telecommunications satellite using state-of-the-art technologies to provide broadband Internet services. Operated jointly by the French and Italian space agencies, CNES and ASI, respectively, it will provide telecommunications services to both armed forces and homeland security units in France and Italy, along with the capacity offered by the countries' Syracuse 3 and Sicral satellites.

Sky Perfect JSAT Selects Kratos Command & Control System for JCSAT-14 Satellite

February 7, 2014 - Kratos Integral Systems International (Kratos ISI) has been awarded a contract by Sky Perfect JSAT to upgrade its Epoch IPS satellite fleet management system to support its JCSAT-14 satellite, scheduled for launch in 2015. Sky Perfect JSAT has used Epoch IPS for more than 10 years to operate its satellite fleet, which includes N-STARc, an Orbital STAR 2 satellite, and its JCSAT-9, -10, -12, -13 and NSAT110 satellites, all LM A2100 satellites. With the addition of JCSAT-14, which is a Loral 1300 satellite, Sky Perfect JSAT will take advantage of Epoch IPS's ability to seamlessly operate satellites from different manufacturers in a single integrated system.

Epoch IPS supports satellite designs from every major commercial satellite manufacturer, allowing Sky Perfect JSAT maximum flexibility as it expands its fleet to provide a broader range of services to customers.

IPSTAR Australia Takes over Orion Satellite Systems

February 11, 2014 - IPSTAR Australia Pty Ltd (IPA), a wholly owned subsidiary of Thaicom Plc, has taken over Australia's Orion Satellite Systems in a drive to access corporate and enterprise sectors with premium broadband satellite services. The 100% acquisition of the Australian satellite communication services and solutions provider is expected to strengthen IPA's operational and management skills. Prior to the National Broadband Network (NBN) IPA dominated in satellite broadband with an 85% share of the Australian market. Today, IPA provides 95% of the capacity used by the National Broadband Network (NBN) for the Interim Satellite Service, is also a NBN retail service provider and is steadily growing its corporate customer channel. IPA intends to expand its share in the corporate market utilizing Orion's complementary experience and the remaining capacity on the IPSTAR broadband satellite over Australia and Oceania.

Financial Close Reached for Jabiru-1 Satellite Project

February 17, 2014 - NewSat announced that financial close has been reached with the US Ex-Im Bank and COFACE for US\$390.1 million of debt funding for the Jabiru-1 satellite project. NewSat has completed or obtained waivers for all the conditions precedent to drawdown the debt funding of US\$300.5 million from the US Ex-Im Bank and US\$89.6 million from the COFACE Promesse de Garantie. The drawdown will commence with a US\$78.9 million payment to Lockheed Martin, taking

total progress payments for construction of the Jabiru-1 satellite to US\$169.9 million. In addition, a progress payment of US\$34.7 million will be made to Arianespace for the launch service, following the initiation of mission analysis in December 2013 in Newtown, Pennsylvania, USA. Jabiru-1 will be Australia's first commercial Ka-band satellite and will provide superior coverage over South East Asia, the Middle East and North Africa.

Mitsubishi Electric Successfully Launches TURKSAT-4A Satellite

February 17, 2014 - Mitsubishi Electric Corporation has successfully launched the TURKSAT-4A satellite under a turnkey contract awarded by Turksat Satellite Communication, Cable TV and Operation Inc. Co. (Turksat A.S.) in March 2011. TURKSAT-4A was launched from the Baikonur Cosmodrome in Kazakhstan at 06:09 on February 15 (Japan time) and the satellite separated from the launch vehicle at 15:22. TURKSAT-4A will use its own power for positioning in geostationary orbit about 36,000 kilometers above the equator. Mitsubishi Electric will continue conducting in-orbit testing until the middle of March before its final handover to Turksat A.S. In addition to TURKSAT-4A, Mitsubishi Electric will further its contribution to Turkey's communications and broadcasting infrastructure with the additional launch of TURKSAT-4B this year, as well as other satellite programs planned in the future.

SpeedCast Opens New Natural Resources Operations Base in Perth

February 18, 2014 - SpeedCast announced the opening of its new facilities in Perth Australia. Launching the new office in Perth is the company's next step in its strategic investment to address the needs of oil & gas and mining customers. Previously together with its partner Satcomms Australia,

SpeedCast invested in state-of-the-art teleport facilities in Perth's suburb of Henderson. This allows SpeedCast to provide services into Africa, Asia and Australia directly from Perth. SpeedCast has strengthened its position in Australia with the acquisitions of established satellite industry players Australian Satellite Communications and Pactel International. As a result, the company is serving a large base of oil & gas and mining customers around the country and can leverage a team of over 50 professionals in Australia and over 100 in Asia-Pacific to support the needs of its natural resources customers in the region. The Perth office complements SpeedCast's presence and infrastructure in the region's other major oil & gas and mining hubs: Singapore, Kuala Lumpur, Jakarta, Port Moresby and Dubai.

Outdoor HD Joins MEASAT's Neighborhood

February 19, 2014 - MEASAT Satellite Systems Sdn. Bhd. announced a three (3) year agreement with GlobeCast and Outdoor Channel for distribution on the MEASAT-3 satellite. Under the terms of the agreement, MEASAT will distribute Outdoor HD via MEASAT-3's global C-band beam, covering 102 countries from Asia, Australia, Middle East, Europe and Africa. Outdoor Channel (Asia), the World Leader In Outdoor Entertainment, is a channel that features traditional and contemporary outdoor sports such as fishing, off-road, water sports, safari and a range of outdoor activities that thrill, inspire and entertain.

SES to Grow Latin American Capacity

February 20, 2014 - SES S.A. has selected Airbus Defence and Space to build its latest communications satellite, SES-10. The satellite will significantly grow SES's capacity to serve the thriving markets of Latin America. The new satellite, ordered through SES's wholly-owned subsidiary SES Satellite Leasing,

SATELLITE INDUSTRY NEWS

will expand SES’s capabilities in Latin America and the Caribbean through high power beams tailored to provide direct-to-home broadcasting, enterprise and broadband connectivity services in the entire region. SES-10’s comprehensive coverage includes Mexico, Central America and South America, as well as the Caribbean. The satellite will be positioned at the 67 degrees West orbital position, pursuant to an agreement between the Andean Community (Bolivia, Colombia, Ecuador and Peru) and SES, which provides for use of the Andean Community’s Simon Bolivar 2 satellite network. SES-10 is slated for launch on board a SpaceX Falcon 9 launch vehicle. With 50 high-power Ku-band transponders, the satellite will provide replacement capacity for the current satellites, AMC-3 and AMC-4, as well as incremental capacity at the 67 degrees West slot. SES has been providing key services to customers in the region from this orbital slot since 2010.


Thales Alenia Space Signs ESA Contract for Next Phase of New-generation Geostationary Satellite Platform

February 20, 2014 - Thales Alenia Space signed a contract with the European Space Agency (ESA) covering phase B in the development of ESA's new-generation platform for geostationary satellites, via the Neosat program. The €18.2 million contract, within the scope of the Artes 14 program, was awarded jointly to Thales Alenia Space and Airbus Defense and Space, with Thales Alenia Space as mandataire. The complete project was allocated a €259 million budget during the ESA ministerial-level conference in November 2012, after being chosen as one of the flagship programs in France's Future Investment Plan in 2011. Within the scope of this program, Thales Alenia Space is developing a new-generation telecommunications satellite platform that will replace its current Spacebus product line with one that is lighter, more powerful and more competitive.

Globecomm Extends Global Xpress VAR Relationship

February 20, 2014 - Inmarsat signed an agreement with Globecomm, appointing the specialized managed satellite services provider as a worldwide Value Added Reseller (VAR) serving the Enterprise market for Global Xpress (GX), the world’s first globally available Ka-band, high-speed broadband satellite network for mobile and fixed users. This is the second such appointment for Globecomm, which in December was named as a GX VAR for the Government market, serving predominantly the Middle East and Africa. Globecomm has a strong presence across EMEA and will play an important role in driving take-up of Inmarsat’s new high-throughput, Ka-band, GX satellite service across the continent. The company has strong engineering and solutions expertise across cellular networks, satellite networks and mobile satellite communications, as well as in content delivery systems, placing Globecomm in an ideal position to provide their GX customers with all the services and support required.

Hughes Wins Contract for Foreign Ministry Network Spanning Six Continents

February 24, 2014 - Hughes Network Systems has won a \$69 million, three-year contract to provide the foreign ministry of a Middle Eastern country with a highly secure private satellite network and services across more than 100 countries on six continents. The new contract calls for Hughes to provide turn-key managed network services across the foreign ministries' global facilities. Hughes will employ its advanced HX satellite broadband system, including end-to-end network management. The Hughes solution is highly secure, reliable and scalable, connecting embassies and consulates in North and South America, Europe, Asia, Africa and Australia. It delivers a wide range of ministry applications such as visa/digital document processing, distance learning and enterprise resource planning (ERP), as well as broadband Internet/Intranet access and voice services (VoIP). 

2014

01	02	03	04	05	06
07	08	09	10	11	12

CALENDAR OF EVENTS

APSCC Officers

President
Yutaka Nagai, SKY Perfect JSAT
Advisory Board
Nongluck Phinaitisart, Ph.D. THAICOM
Eui K. Koh, Ph.D. JB Technologies
Yasuo Otaki
David W. Thompson Orbital Sciences Corporation
G. Madhavan Nair, Ph. D. Indian Space Research Organisation
John Celli SSL
Board of Directors
Richard Bowles Arianespace
Thomas Choi Asia Broadcast Satellite
Philip Balaam AsiaSat
Zhiheng Fu China Great Wall Industry Corporation
Ratnarajah Kularajah International Launch Services
Terry Bleakley Intelsat
Sung Ho Choi kt sat
Yau Chyong Lim MEASAT
Eiichi Hikima Mitsubishi Electric Corporation
Ted McFarland Orbital Sciences Corporation
Dani Indra TELKOM Indonesia
Deepak Mathur SES
Kian Soon Lim SingTel
Daryl Mossman SSL
Barry Matsumori SpaceX
Sandy Gillio Thales Alenia Space

MARCH

10-13	Satellite 2014 - Washington DC, USA www.satellitetoday.com/events/
11-13	CABSAT 2014 - Dubai. UAE www.cabsat.com
19-20	Oil and Gas Telecommunications - London, UK www.smi-online.co.uk/2014oilandgas-comms3.asp
31-01	MilSpace 2014 - London, U.K www.military-space.com

APRIL

01-03	Space Tech Expo - Long Beach, CA, USA www.spacetecheexpo.com
05-14	NAB 2014 - Las Vegas, Nevada, USA www.nabshow.com

MAY

14-15	4th Annual MilSatCom Asia Pacific - Singapore www.smi-online.co.uk/2014milsatcom-asia34.asp
-------	--

JUNE

02-04	Global Space Applications Conference 2014 - Paris, France www.glac2014.org
04-05	Latin American Satellite Communication & Broadcasting Summit (LATSAT) - Mexico City, Mexico www.euroconsult-ec.com
16	CASBAA Satellite Industry Forum 2014 - Singapore www.casbaa.com
17-20	CommunicAsia 2014 - Singapore www.communicasia.com
18-19	SatComm 2014 - Singapore www.communicasia.com

ADVERTISERS' INDEX

APSCC Newsletter - A Great Way to Advertise

With a vast international circulation that includes the most prominent members of the satellite, space and communications communities, APSCC Newsletter is seen by an elite readership of industry professionals around the Asia-Pacific and globally.

Your message will reach the right people. Advertising in APSCC Newsletter is a cost-effective way to reach your potential clients and business partners. APSCC Newsletter can bring your company to the attention of key personnel in the satellite and space technologies, telecommunications and broadcasting industries. We offer you exclusive contact with people in the government, academic and industry sectors.



1st Quarter 2014

Advertiser	Page
NewSat	Inside front cover
China Satcom	02
O3b Networks	09
SKY Perfect JSAT Corporation	13
Orbital Science Corporation	15
Satellite Evolution Asia	19
Arianespace	21
talk Satellite	25
CommunicAsia2014	31
CommunicAsia2014 Summit	39
APSCC 2014	Inside back cover



APSCC is a non-profit, international regional association representing all sectors of satellite and space related industries. APSCC membership is open to any government body, public and private organization, association, or corporation that is involved in satellite services, broadcasting, manufacturing, launch services, risk management or associate fields such as datacasting, informatics, multi-media, telecommunications, and other outer space-related activities with interests in the Asia-Pacific region.

APSCC aims to exchange views and ideas on technologies, systems, policies and outer space activities in general along with satellite communications including broadcasting for the betterment of the Asia-Pacific region. Conferences, forums, workshops, summits, symposiums, and exhibitions are organized through regional coordination in order to discuss issues that affect the industries and to promote and accelerate the efficient introduction of outer space activities, new services and businesses via satellites.

In order to disseminate industry related information, APSCC publishes a quarterly satellite magazine as well as a monthly e-newsletter, which are distributed worldwide to members and others. The quarterly magazine and other publications are available on the Web at www.apsc.or.kr.

Editorials and Inquiries

Inho Seo, Editor
Asia-Pacific Satellite Communications Council
T-1602, 170 Seohyeon-ro Bundang-gu, Seongnam-si,
Gyeonggi-do SEOUL 463-862 Rep. of KOREA
Tel: +82-31-783-6247 / Fax: +82-31-783-6249
E-mail: editor@apsc.or.kr / Website: www.apsc.or.kr

APSCC Newsletter is a publication of the Asia-Pacific Satellite Communications Council. It is published quarterly in March, June, September and December. The contents of this publication may not be reproduced, either in whole or in part without, prior written permission from the editor. The views and opinions expressed are those of the authors and are not necessarily supported by APSCC.

Design and Printing by Design CRETA
Tel: +82-2-454-2022
Fax: +82-2-458-1331
Website: www.designcreta.com

APSCC 2014 Satellite Conference & Exhibition New Landscape for Satellites: Asia and Beyond

23~25 September, 2014
JW Marriott Phuket Resort & Spa
 **Phuket, Thailand**



Sponsorship and Exhibition Opportunities NOW available!
Please contact the APSCC Secretariat at info@apsc.or.kr
www.apsc.or.kr