

Change and Challenges Ahead for Satellite Industry

by Elisabeth Tweedie

Is owning a satellite a license to print money? According to figures shared by Euroconsult at the 18th Annual conference on satellite financing, it pretty much has been. For Fixed Satellite Services (FSS) 18 of the last 20 years have produced a revenue increase over the previous year. Unlike the stock market, the maximum decline in the two years when revenue fell, was just over 2%. These figures were presented in the opening session, and although last year the increase was only 2%, this news seemed to set the mood for the next few days. There was general agreement that there are changes and challenges ahead in almost every sector of the business but the atmosphere was definitely upbeat.

Last year the vast majority of the growth came from the fast growth emerging markets: namely Latin America, South East Asia and Africa. This growth was distributed across all three major commercial bands: C, Ku and Ka. However the fact that growth is coming from the emerging markets doesn't mean that these are easy markets to access. Deepak Mathur, Senior Vice President, Commercial Asia-



Senior executives of satellite companies provided their insights into the prospects and challenges facing the satellite industry at the World Satellite Business Week in Paris organized by Euroconsult.

Pacific, SES commented that "Asia is not for the faint of heart." This sentiment was later echoed by Karim Michel Sabbagh, CEO of SES when he stated "we need to optimize our approach to emerging markets and need to find technical and economic models that work for them." Guanren Cheng, President, APT agreed about the challenges of Asia; stating that even though APT was listed in Hong Kong, it was treated as a foreign operator in China and less than 20% of APT's revenue comes from that country.

The MSS operators also agreed that most of the future growth is going to come from the same geographic markets. They also viewed the convergence of MSS and FSS, which is beginning to happen, as an opportunity for partnerships rather than a threat.

Video, and Direct-to-Home (DTH) in particular remains the cash cow of the industry, with DTH revenues totaling US\$95 Billion last year, other video services (mainly contribution and distribution to cable headends) accounting for another US\$ 4 Bil. To put this into perspective, the next largest segment, defense and security, produced revenues of US\$5.5 Bil. 3,000 DTH channels were added in 2013 bringing the total to 35,000.

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Satellites for a Better World



Those of us who work in the satellite industry are well aware of the vital contributions of industry to social development and welfare. But the industry is not one to beat its own drum, content in doing its job, day in and day out. We all know the pivotal role that satellites play in our daily lives—without satellites, we won't have television or cable TV (yes, your cable channels are distributed from the source via satellite), no GPS, and most cell phone calls go through satellite at some point.

Apparently, the Society of Satellite Professional International (SSPI) finds the need to propagate to wider audience the virtues of satellite technology. So the SSPI has launched a marketing campaign on "How Satellites Make a Better World." To kick off this campaign, the SSPI has launched an informative website (<http://www.bettersatelliteworld.com/>) which will contain various stories of how satellites have made positive contributions to society. We are Satellite Executive Briefing are wholeheartedly supporting this initiative. Lou Zacharilla, SSPI's Director of Development, writes a bimonthly column for our magazine and he will be featuring this topic in his future columns.

In this issue, we get the ball rolling with our Case Study on page 9 of a product by Globalstar which has assisted in over 3,000 lifesaving rescues. More stories like this will follow in future issues. Stay tuned.

Virgil Labrador
Editor-in-Chief

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Change and Challenges Ahead for Satellite Industry ...From page 1

In the last few years there have been an average of 14 new DTH platforms per year, however this is not sustainable, and consolidation is inevitable in some markets; particularly those with over five operators – of which there are several; Indonesia for example currently has 21. More than 75% of DTH platforms now offer some HD channels. But it was interesting to note that in spite of the general hype surrounding the technology, none of the major operators expected Ultra High Definition (UHD) to be significant before 2020. Encompass and Globecast went further and said that none of their customers had expressed any interest in the technology.

Euroconsult projects a steady increase of 3% in the number of TV channels, with the number of SD channels starting a decline from the current 30,000 in 2018, down to ~25,000 in 2023. The projections show UHD as still being insignificant in 2023. Interestingly, the same growth rate of 3% is shown in the number of TPEs used by broadcasting, indicating that the more efficient compression technologies are expected to be adopted at the same rate as higher quality pictures qualities are introduced. However the panelists generally agreed that overall there is still considerable potential for growth in video. Michel de Rosen pointing out that in North America there are 35 TV channels per million inhabitants; in Latin America, seven channels and only two channels per million inhabitants in Africa.

Overall C and Ku TPEs are showing a steady 7% growth in supply for the three years to 2016. For High Throuput Satellites (HTS) it's a completely different story. Euroconsult analysis shows a growth in capacity of 44% over the same period, with the steepest increase occurring between 2015 and 2016. This increase will bring total capacity to around 1,650 Gbps, just over double the current supply. Over a third of this will be in North America. This supply mainly comes from mixed payloads, rather than dedicated satellites, and there will be over 70 satellites incorporating a high throughput payload. Business models are expanding and services now include trunking, backhaul, enterprise VSATs and mobility as well as consumer broadband. In the enterprise VSAT market, Euroconsult are projecting a 5% CAGR to 2023, most of which will be in HTS as regular systems hold steady at around 2 Million active VSATs from 2017.

In the US consumer broadband is still the dominant application for HTS. Mark Dankberg, Chairman and CEO of Viasat – stating that “Consumer Broadband is the most profitable business, now greater than defense”. The Viasat consumer service is marketed under the name Excede and one third of



High Throughputs Satellites (HTS) such as ViaSat 2, which is scheduled for an early 2016 launch, will be twice as bandwidth efficient as ViaSat 1, which will allow for unlimited consumer plans to be introduced.
(image courtesy of ViaSat)

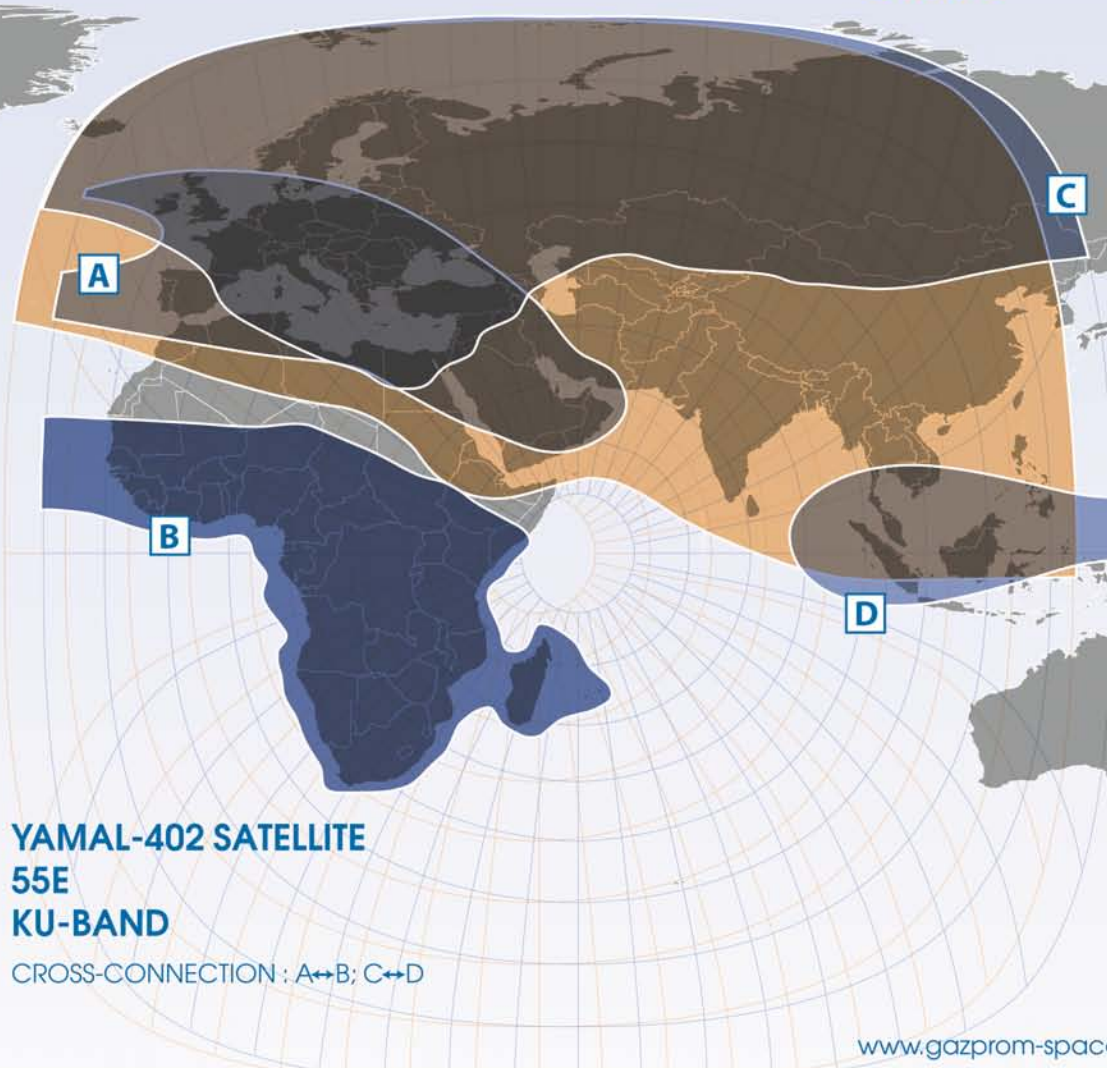
Excede's customers previously got their broadband service from DSL or Cable. He also stated that ViaSat 2, which is scheduled for an early 2016 launch, will be twice as bandwidth efficient as ViaSat 1, so unlimited consumer plans will be introduced, following the launch of ViaSat 2. Hughes remains the dominant provider in the US with over one million customers. Hughes have also acquired the Ka-Band payload on Eutelsat 65W and will use it to enter the Brazilian market with wholesale and retail broadband service in exactly the same way it did in the US. However all is not rosy on the HTS front. Euroconsult showed a thought provoking chart that showed HTS accounting for 49% of capacity demand by 2023 but only 32% of revenue.

Aeronautical – as in service for passengers - has been an application in-waiting for satellite for many years. HTS seem to be poised to change that status. Although passenger services have been offered for several years now, particularly in North America, take up has been notoriously low; generally quoted rates are below 10%. According to Mark Dankberg, this is largely explained by the fact that prices have been kept high to ensure an adequate supply. With the advent of HTS this is not so necessary. Basic internet connectivity (from ViaSat) is currently offered at no charge on over 150 Jet Blue planes in the US; and Mark mentioned that on one flight with 140 passengers on-board there were 130 devices connected to the internet. Euroconsult are projecting a 21% CAGR in inflight connectivity to 2023.

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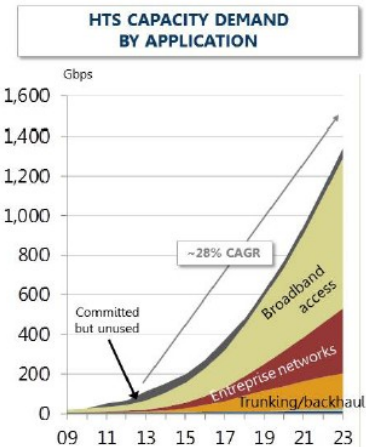
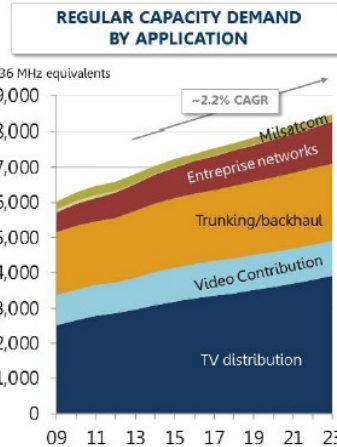
Earlier in the Summit for Satellite Finance, one of the investment bankers quoted a survey in which 37% of passengers had said they would be upset if there was no WiFi on-board; as opposed to the 31% that said they would be upset if there was no food or water on-board!

At the time of the conference, the fate of Ex-Im in the US was still uncertain, but Michelle Miller, Senior Loan Officer - Project & Structured Finance, commented that it was still very much "business as usual." And business as usual for the three Export Credit banks on the panel means financing of traditional satellites. None of them reported financing cubesats. Exiar, the newcomer on the panel is a two year old Russian entity responsible for financing Aniara earlier this year. Aniara's two satellites will be built by Dauria Aerospace. Dauria is Russia's first privately owned satellite manufacturing company and specializes in small satellites weighing less than 100 Kilograms.

Flexibility was one of the key words that kept cropping up during the course of the conference. It was first heard in the context of satisfying customer requirements for TV Distribution, with Avi Cohen, CEO of RR Media commenting that although satellites will be used for TV distribution for many years yet, the business model will need to be changed in order to keep up with competition from fiber. David Crawford, MD Satellite and Media, Arqiva also commented that his company was having to move very much towards managed services. He also stated that "customers don't like dealing with telcos". Olivier Barberot, Chairman and CEO of Globecast also said that the Service Providers needed to change to "become the one stop shop" for customers – this would include providing Over the Top (OTT) delivery.

The satellite manufacturers also took up the theme of flexibility and talked about software defined satellites. Eric Béranger, Head of Space Systems Programs, Airbus Defense & Space, saying that future satellites needed to be flexible in terms of spectrum management, power and technology. John Celli, President of Space Systems Loral went on even further to suggest that in five to six years time, customers would be building their satellites to order on the web. He pointed out that innovation was "easy for SSL as we live in Silicon Valley."

This will be good news to Martin Halliwell, CTO of SES who ended the conference by issuing a challenge to the manufacturers. He wants a "cookie cutter spacecraft that can be used in any orbital location for any thing, and if necessary can be reconfigured in orbit." This flexibility would include being able to decide post launch which frequency bands



TV Distribution and HTS will be driving demand for satellite services according to Euroconsult.

would be used. As if this wasn't challenge enough on its own, he added that he wanted delivery in orbit in twelve months at a price of US\$16m per kilowatt. Unfortunately the manufacturers were not around to respond to this challenge.



Elisabeth Tweedie is the Associate Editor of the Satellite Executive Briefing. She has over 20 years experience at the cutting edge of new communication and entertainment technologies. During her 10 years at Hughes Electronics she worked on every acquisition and new business that the company considered during her time there. She can be reached at: elisabeth@satellitemarkets.com

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Globalstar's SPOT Aids in 3,000 Lifesaving Rescues Worldwide



by Virgil Labrador, Editor-in-Chief

(image courtesy of Globalstar)

Globalstar's SPOT family of products have been used to initiate 3,000 lifesaving rescues globally. These include more than 110 rescues in Europe, Middle East and Africa – ranging from a mountain rescue in Greenland, support for adventure racers in Western Sahara, to medical emergencies in Afghanistan.

With hundreds of thousands of SPOT units in service, SPOT is being used every day to initiate a rescue, with most EMEA rescues occurring in France, Norway, Spain and the UK.

SPOT satellite devices provide an affordable and vital line of communication with friends, family and emergency assistance on any adventure, from sailing to hiking, and from skiing to paragliding. The latest GPS messenger, the SPOT Gen3™, was launched in November 2013. The SPOT App was also introduced earlier this year, allowing users to view their SPOT messages, show their track points and monitor their assets via their iOS and Android smartphone or tablet.

European Customer Rescues

In February 2014, Manfred Tennstedt was sailing with two friends across the Atlantic from the Canary Islands to Guadeloupe in a 39-foot sailing boat, *Bribon II*, when the boat's rudder broke. After assessing the situation, Manfred pressed the emergency button on his SPOT Gen3 to alert emergency services via the GEOS International Emergency Response Coordination Centre (IERCC). A plane was sent out from Las Palmas in the Canary Islands to establish radio contact with the boat and determine its situation.

Due to the distance, emergency services were not able to tow the boat back to the coastline so the crew needed to be evacuated by rescue helicopter to Tenerife. Five hours after the initial distress signal, all three crew were safely back on land.

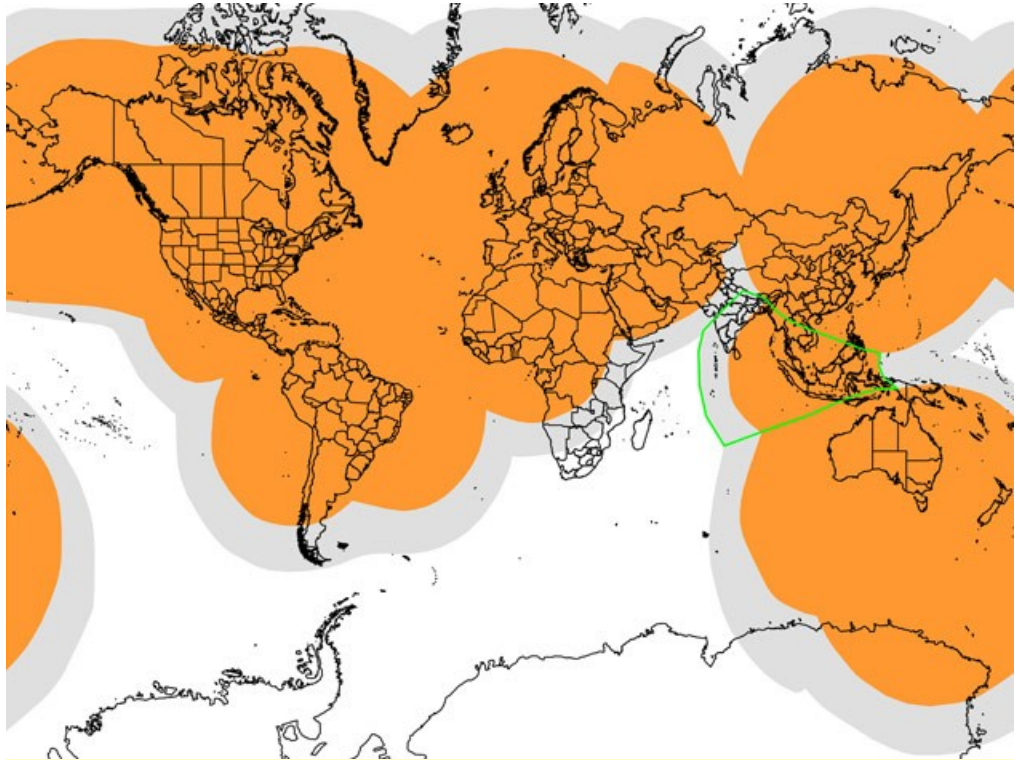
Tennstedt commented, "We had decided to take a SPOT so that family and friends could track our every move on the trip, not intending to use it for a

rescue. As it was, we were very happy with the way things turned out. Our friends and family back in England and Austria were kept apprised of every step of the rescue and felt reassured about our wellbeing."

Another European SPOT Gen3 user was sailing a catamaran with two crew in the Caribbean in December 2013 when a storm damaged the mast, sails and VHF antenna, disabling the radio. Although thankfully nobody was injured, it was impossible to navigate the boat. The crew pressed the SOS button on their SPOT Messenger to alert emergency services via the IERCC. Also, they used their satellite phone to call the Maritime Rescue Co-ordination Centre (MRCC) in Germany. The coastguard despatched a rescue boat team and helped the crew cut the rigging. IERCC kept in constant communication with the sailor's son back in Germany. Using the SPOT website, he and the MRCC were able to track everyone's progress back into harbor.

Steve Wood, Chairman of Mapyx, a UK-

based SPOT value added reseller, knows all too well how important the SPOT family of products are to his customers. Wood commented: "Following a number of serious floods and forest fires, we are seeing a surge of interest in Globalstar's satellite tracking technology from emergency services in addition to the growing demand from the education sector for students on the Duke of Edinburgh award scheme. By using SPOT Gen3 and Mapyx systems, search and rescue organisations can understand where all their assets are and speed up rescues by ensuring the right people are in the right place at the right time."



Dirt Bike Riding – the 3,000th Rescue SPOT's global coverage (image courtesy of Globalstar)

The 3,000th rescue recently occurred in Colorado. Two avid dirt bikers were outside of mobile phone reception when an accident occurred. One of the riders, Kevin, activated the SOS button on his SPOT Satellite GPS Messenger™. The GEOS IERCC was alerted and coordinated the rescue with local law enforcement. "SPOT worked really well. Without it, getting out would have been more difficult and time consuming and who knows what could have happened in that time. There were a lot of different variables involved," said Kevin.

"Life saving rescues around the globe are now a daily occurrence for our SPOT products. SPOT is an absolute **must** for the outdoor recreation market and aviation, as well as an essential government and enterprise solution," said Jay Monroe, CEO and Chairman of Globalstar. "With 3,000 confirmed rescues, saving lives continuously drives us to innovate, creating affordable satellite communications solutions that reach a market well be-

yond traditional mobile satellite users, including millions of people globally," he added.

Product Features

SPOT Gen3, the latest version of SPOT's satellite powered personal GPS messenger, is a rugged, pocket-sized consumer-friendly communications device. It delivers even more enhanced functionality than earlier generations with more tracking features, improved battery performance and more power options including rechargeable and USB direct line power.

With the push of a button, SPOT users can:

Alert for rescue - transmits an SOS notification with GPS location to GEOS International Emergency Response Coordination Centre (IERCC).

Check In - let others know they are OK and have arrived safely.

Track - share their GPS location in real-

time via Google Maps.

Message - send custom messages to family and friends regardless of mobile coverage.

New SPOT Gen3 features include:

Unlimited Tracking – Users can pre-set SPOT Gen3 to send messages that track their journey with options to send every 5, 10, 30, or 60 minutes.

Extreme Tracking – All the features of Unlimited Tracking, plus the added ability to vary the track rate down to every 2½ minutes. Perfect for pilots and ultra-outdoor competitors.

Motion-Activated Tracking - SPOT Gen3 sends tracking messages at a chosen rate for as long as the device is turned on and moving.

Longer Battery Life – Approximately twice as long as previous SPOT devices with new power options including 4 x AAA Energizer Ultimate Lithium 8 x batteries (L92), 4 x AAA Energizer NiMH



SPOT Gen3, the latest version of Globalstar's satellite-powered personal GPS.

(image: Globalstar)

rechargeable batteries (NH12), or Line Power with a 5v USB connection.

"When outdoor adventurers are in extreme environments, they have come to depend on the SPOT line of products time after time," said Gavan Murphy, Director of Marketing, EMEA and LatAm, Globalstar Europe. "The new SPOT Gen3 has a significantly improved battery life, enhanced usability and more robust tracking options to help meet the demands of our loyal customers – now numbering some 250,000 and counting," he added.

Murphy continued: "Globalstar's second-generation satellite network went live in Summer 2013, providing a superior service for our customers. Whether a SPOT user is crossing the Bay of Biscay, climbing in the Alps or on safari in Kenya, they can be assured to get connected, and stay connected."

SPOT satellite coverage spans the world, including Europe, Canada, continental United States, Mexico, Australia,

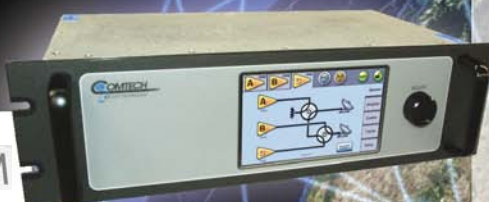
Northern and Central Africa, much of South America and North-Eastern Asia as well as hundreds of thousands of miles offshore of these areas.

Pricing and Availability

SPOT Gen3 retails US \$149.95 MSRP plus a required annual subscription service starting at US\$ 149.99 per year with upgraded service plans available. SPOT Global Phone retails US\$ 499 MSRP plus a required subscription service from US\$ 24.99 monthly.

SPOT is available in the U.S. at retailers nationwide such as REI, Cabela's, Dick's Sporting Goods, Big 5 Sporting Goods, Gander Mountain, Eastern Mountain Sports, Sportsman's Warehouse, West Marine and Bass Pro Shops. For more information on SPOT Gen3, a list of dealers and retailers carrying SPOT products, visit FindMeSpot.com.

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Satellite Communication Networks and Cyber-Security

by Martin Jarrold

This year, for the first time, the conference program for GVF's ***Oil & Gas and Communications South East Asia 2014*** will include a focus on cyber-security, an issue which has recently come to the forefront of discussion across the global communications connectivity community, and a topic which is vital to energy exploration and production (E&P) communications.

With an overall focus on “Evolving the ‘Big Data’ Digital Oilfield for Offshore & Deep Water”, the conference, ***Oil & Gas and Communications South East Asia 2014*** – the 22nd event in the GVF-EMP global **Oil & Gas Communications Conference Series** – will look at cyber-security issues as they relate to satellite-based communications solutions, and integrated satellite-terrestrial hybrid communications solutions, to which the oil and gas industry upstream segment turns to provide the essential connectivity to access vital applications and to transfer vast data streams around their international networks.

This 7th annual event for the Southeast Asian oil and gas patch will take place in Kuala Lumpur, Malaysia, on 19th & 20th November 2014, with the Asia Pacific Satellite Communications Council (APSCC) as the supporting regional satellite industry association.

Working in association with major oil and gas industry-related organizations, as well as the communications sector, GVF and EMP will be providing the opportunity for extended networking opportunities for communications end-user and solution vendor expert practitioners, set within the context of a conference program in which the nature of the applications and connectivity imperatives of the energy market vertical will be fully addressed to a regional assembly of oil and gas industry ICT, networks and connectivity specialists.

Naturally, the program for this latest in the series of GVF oil and gas communications conferences for the south east Asia region is set against the backdrop of a range of highly dynamic influences, not the least of which are (a) the more-localized effects of geo-economic political disputes between regional nations over oil and gas E&P rights, (b) the wider oil-economics effects of the escalation of fighting in the Middle East, and (c) projected patterns of Capex across the region's oil and gas resources in the period through to 2017. Now, added to these various facets of the global and regional geo-political energy agenda, is the major issue of cyber-security.

During a previous GVF-EMP event on high throughput satellites, ***HTS 2014–The Washington Roundtable***, GVF an-



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sponse to this challenge.”

The member companies of GVF, representing the major providers of satellite networking solutions, place security of communications utilizing their equipment and services at the highest level of importance. As a reflection of that commitment, the **Task Force’s** mission is to work with the broader communications community to maximize security in the entire end-to-end solution: From the network operations center to the hardware and software security protection embedded in the VSAT terminal on the user premises.

The **Task Force** will leverage its work with current measures being applied by the international satellite communications industry to defend against cyber-attacks. For the thousands of operators and millions of VSAT systems throughout the world, the satellite communications industry will evaluate how a variety of considerations – from training and support to security policies, standards and protocols – can be most effectively applied.

More recently, the **Task Force** has developed and released the GVF Product Security Baseline (PSB), a consensus-based specification guideline that establishes best practices for VSAT hardware and software providers in the areas of secure product development.

Additional key features of the Kuala Lumpur program will include, amongst others, such themes as:

- Oil & Gas Patch Communications: Now & Next Trends for Asia
- High Throughput Satellites and Oil & Gas ‘Big Data’
- The 21st Century Asian Oilfield E&P: Maximizing Growth through Information & Communications Technologies
- ‘Big Data’ Networking Solution Innovations for Cloud-over-Satellite in E&P
- M2M in Oil & Gas E&P: From the SCADA Data-Flow to the Video Application Environment Southeast Asia’s E&P and the ‘Internet of Things’
- Oil, Gas & Communications: Spectrum Defense
- Oil, Gas & Communications: Challenging Interference – Installation Training & Certification
- Advanced Oil & Gas ICT: High Demand Communications

“...The Task Force will leverage its work with current measures being applied by the international satellite communications industry to defend against cyber-attacks. For the thousands of operators and millions of VSAT systems throughout the world, the satellite communications industry will evaluate how a variety of considerations – from training and support to security policies, standards and protocols – can be most effectively applied...”

for Crew Welfare, Crew Safety, and Crew Training Applications

- Satcom Service Business Models: Getting More, Paying Less
- Monitoring & Management of the Asian Digital Oilfield in Real-Time
- Development, Deployment & Return on Investment: Advanced Networking Communications Infrastructures & Value-Added Services to Realize Deep Water Reserves
- UAVs, Satellites & O&G Infrastructure Defense
- The Remote Application of Auto-Deploy Antenna Technology for Oil & Gas
- Hydrocarbon Hunger, Environmental Impact: Communications Solutions & Regulation in Oil & Gas E&P

For more information on the full conference program please contact the Series organisers: Either me at martin.jarrold@gvf.org, or Paul Stahl at paul.stahl@uk-emp.co.uk.

Additionally, you may consult the conference website at www.uk-emp.co.uk/current-events/o-gsea-2014/. Speaking opportunities for the Kuala Lumpur program are still available.



Martin Jarrold is Director of International Programs of the **GVF**. He can be reached at: martin.jarrold@gvf.org



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ViaSat and SS/L Settle Contentious Lawsuit

by Elisabeth Tweedie, Associate Editor

In a surprising move ViaSat and Space Systems Loral (SS/L) agreed to a settlement in the lawsuit brought by ViaSat against SS/L. In August ViaSat was talking about pushing for damages higher than the US\$283 million originally awarded, so it came as a complete surprise to industry observers, that less than a month later it agreed to a settlement of US\$100 million.

To briefly recap: in April, a jury found SS/L guilty of breaching three of ViaSat's patents when it designed Jupiter 1 (now known as Echostar XV11) and awarded ViaSat US\$ 283 million in damages. In August, the US District Court for Southern California rejected this award, but left the verdict intact.

A new trial was ordered solely to consider the amount of the damages. At the time ViaSat was quoted as saying that the ruling gave them room to push for even higher damages. A second lawsuit alleging additional patent infringement was due to go to trial in 2016. As reported previously, the initial verdict was questioned by many in the industry; who considered that the patents should never have been awarded in the first place.

Under the terms of the settlement Vi-

sat will be paid US\$40 million immediately and US\$60M plus interest over the next two and a half years. In return ViaSat has dropped all lawsuits against SS/L and agreed that SS/L and its customers will be free from future lawsuits relating to the contested patents and breach of contract. This allows SSL to continue manufacturing High Throughput Satellites without fear of further

moving ahead, not worrying about old stuff. We would have got more if we'd continued (with the lawsuit)..... but we'd rather make money by being in the market."

Daniel Friedman, Chief Executive of MDA (parent company of SS/L) said "We are very pleased to settle these disputes with ViaSat. This settlement

enables SSL and ViaSat to put our disputes behind us, which benefits everyone. We appreciate our customers' support and apologize for any inconvenience caused to our customers during this difficult period, and we thank them for their support."

At the time the original lawsuit was filed SS/L was a subsidiary of Loral Space and



Viasat-1 at the SS/L manufacturing facility in Palo Alto, Calif.
(photo courtesy of SS/L)

lawsuits. As importantly, it allows SSL engineers and physicists to focus on the task of designing and manufacturing satellites, rather than defending their actions.

When asked about the settlement at Satellite Business Week in Paris, Mark Dankberg, Chairman and CEO of ViaSat put an interesting slant on the sudden change of face when he said "We achieved our objective.....the court upheld that Jupiter 1 is a clone of ViaSat-1.....that technology is now eight years old, and we are focused on

Communications. It was subsequently sold to MDA but the agreement between Loral Space and Communications and MDA included a clause that Loral was obligated to assume responsibility for the lawsuit and associated costs up to an undisclosed ceiling. Initially the payments to ViaSat will be paid equally by Loral and SS/L.

However, the two companies have agreed to arbitration (scheduled for October this year) to determine the precise allocation between them.

A New Mobile Multimedia Service for China...then Asia

by Elisabeth Tweedie, Associate Editor

CMMB Vision Holdings of Hong Kong announced last month that it has entered into a partnership with New York Satellite Holdings, LLC (NYSH). NYSH is a subsidiary of New York Broadband LLC. NYSH has acquired the former WorldSpace satellite AsiaStar located at 105E and associated L-Band spectrum rights. The satellite was launched in 2000, with a 12 year design life. It is still functional but expected to go into inclined orbit sometime in the next year. However this satellite is merely a placeholder and is being used to secure the orbital slot and for beta testing of CMMB's concept. Financing is being sought for two replacement satellites. It is expected that CMMB will acquire 100% of the capacity on these satellites. An RFI has been issued and the current intent is to launch the first of these satellites in 2017 and order the second one by the end of 2015. It is hoped that Export Credit Agency (ECA) financing will be available and if so, will determine the nationality of the satellite manufacturer.

The beta trial in Beijing, will focus on Digital Audio Radio Service (DARS), which is all AsiaStar can provide. Once the new satellite is launched it is intended to provide a digital mobile multimedia service. The high power satellites will provide both broadcast, unicast and interactive service and be coupled with a two way terrestrial service – a similar business to that envisaged by Solaris (although had that come to fruition it would have been an S-Band service). Popular video programming will be pushed to the handsets and mobile receivers from the satellite for storage, so it will appear to the user that the content is on-demand. Other content will be served on-demand from the satellite and terrestrial network.

According to CMMB Chairman and CEO Charles Wong “users will be able to enjoy unlimited mobile video and data

downloads anytime, anywhere at a fraction of current mobile data costs. Through the efficiencies of broadcasting, the cost of delivery of programming is between \$0.01 and \$0.05 per GB, compared to \$10 to \$15 per GB for mobile multimedia services using cellular networks.”

A Memorandum of Understanding (MOU) has been signed with a Chinese State-level media group to develop and operate the service in China. CMMB will be a wholesaler. It is then intended to expand the service to other Asian countries.

Before the new service goes into operation, it will be necessary to develop and produce a new chipset and multimedia receivers. Initially these will be aftermarket devices, due to the lead-time necessary to get a new receiver incorporated into vehicles, and the associated slow customer ramp-up.

The four gentlemen driving this venture are Charles Wong, Dr. Hui Liu, Dr. Charles Naumer and Dr. Doug Sicker. Unusually these all work for different companies associated with the venture.

CMMB Chairman and CEO Charles Wong is also the founder and managing director of a Hong Kong securities and private equity firm. He has previously worked for Goldman Sachs, Citibank, BNP Paribas, GE and McKinsey & Co.

Dr. Hui Liu is the CTO of New York Broadband LLC and Associate Dean of the School of Electronics, Information and Electrical Engineering at Shanghai Jiao Tong University. He is the creator of the Converged Multimedia Mobile Broadband (CMMB) standard, more commonly referred to as the China Mobile Multimedia Broadcasting standard. This is currently in use to deliver mobile TV service to over 1B us-



CMMB Vision Holding Chairman and CEO Charles Wong at the launch of their new mobile multimedia service in China.

ers worldwide, (most of which are in China), and is similar to DVB-SH, the European standard for combined satellite and terrestrial broadcasting to handheld devices.

Dr. Charles Naumer of the Managing Director of NYSH. He has previously founded three successful technology companies.

Dr. Doug Sicker is the Chief Strategy Office of CMMB USA and currently also the Department Head of Engineering and Public Policy and Professor of Computer Science at Carnegie Mellon. He is also the Executive Director and Chair of the Technical Working Group of the Broadband Internet Technical Advisory Group (BITAG). Previously he was CTO and Senior Advisor for Spectrum at the National Telecommunications and Information Administration (NTIA) in the US.

Interestingly although these gentlemen have stellar credentials, none of them has worked at the business end of the satellite industry. This is not necessarily a disadvantage. Sometimes a fresh perspective can be a very good thing! However to succeed in a venture of this scale a lot of things

have to fall into place.

These include getting

the terrestrial repeaters installed, large-scale production of the new chipsets and receivers at a price point that will encourage consumer take-up and a strong distribution network. As a wholesaler CMMB will not be directly responsible for the distribution and sales, but its success will still be dependent on these. China is good at large scale manufacturing, but in this instance it will be producing for the home market, so this may not produce such a cost advantage that accrues to companies manufacturing in China for a western market. And of course the finance has to be raised and the satellites built and launched.

An exciting venture, but one with plenty of challenges ahead.



CMMB
VISION

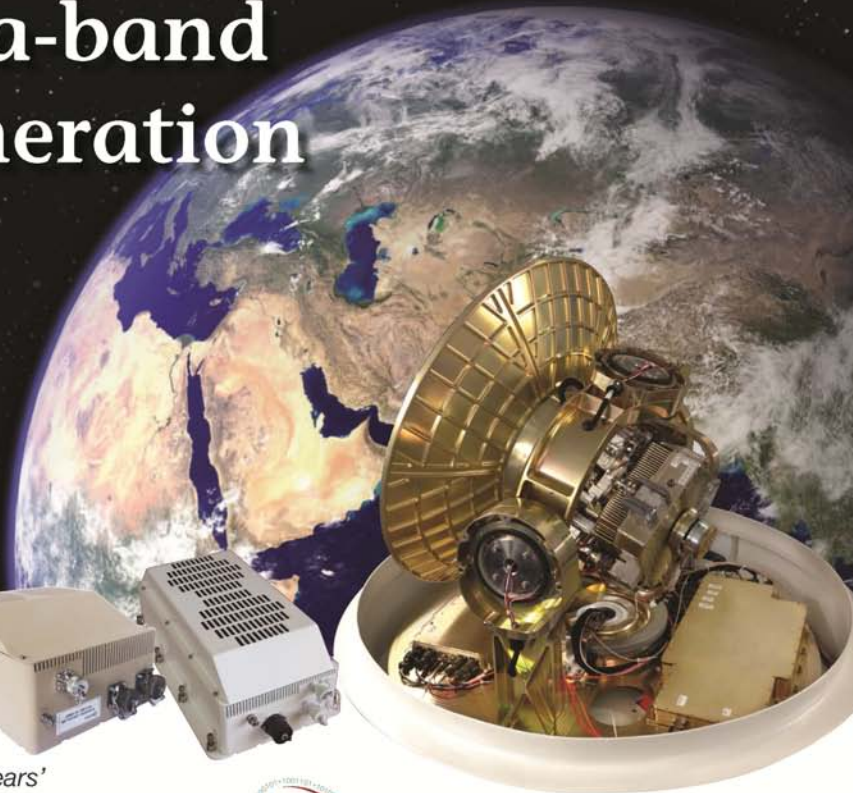


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■ A guide to key products and services to be showcased at MILCOM 2014, Baltimore, Maryland , USA from October 6-8, 2014.

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Cobham SATCOM is an official launch partner for Inmarsat Global Xpress® (GX), and several EXPLORER products are being developed specifically for operation on the GX network. Products include the EXPLORER 3075GX, which is a 0.75m Electronic Assisted Manual Point Fly-Away terminal; the EXPLORER 5075GX 0.75m Auto-Acquire Fly-Away terminal; and the EXPLORER 7100GX 1.0m Auto-Acquire Drive-Away terminal.



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Comtech EF Data

booth # 373

www.comtechefdata.com



Comtech EF Data Corporation

a subsidiary of Comtech Telecommunications Corporation, is

the recognized global leader in satellite bandwidth efficiency and link optimization. The integrated SatCom infrastructure solutions encompass Advanced VSAT Solutions, Satellite Modems, RAN & WAN Optimization, Network & Bandwidth Management and RF products.

The offerings enable commercial and government users to reduce OPEX/CAPEX and to increase throughput for fixed and mobile/transportable satellite-based applications. With the addition of our premium service, ESS Prime, we also provide 24x7 engineering support and other technical services to support your integrated network infrastructure.

Comtech Xicom Technology
booth # 608
www.xicomtech.com

Comtech Xicom will be showcasing a broad array of SATCOM HPAs during the upcoming MILCOM 2014 event. The company's SATCOM HPAs feature increased power, smaller packages and touch screen controllers and the new products on booth provide an increase in linear power, in small packages, all with greater efficiency. These products are designed for transportable and fixed applications where size weight and power are critical factors in mission success.



LCD Touch Screen Controller

From SNG to military terminals, Xicom offers more power levels, more frequencies and more redundant and power combined configurations to meet your needs. In addition to industry-leading products, Xicom has the engineering depth to develop solutions to meet all requirements... plus, the systems are supported by a world-class service and support organization.

EM Solutions
booth # 661
www.emsolutions.com.au

EM Solutions is recognized for manufacturing technologically superior microwave modules and systems for next generation broadband satcom and terrestrial communications at frequencies from L-band to Ka-band (1 to 40 GHz) and beyond (now building radios in E-band 71 to 86GHz). It strives to offer differentiated microwave products that embed its unique IP, and are available on demand.

Since 1998, the company has produced integrated RF modules used in low noise receivers and solid state high power transmitters for defence and commercial customers around the world. These sophisticated components form the core subsystems used primarily in microwave terrestrial and satellite links, or in other applications such as radar, radio-astronomy, and remote sensing.

EM Solutions customer base includes many of the world's largest systems integrators and telecommunications companies. The company offers system-level design checking

and validation, and an RF performance guarantee. It is a Defence accredited supplier and is ISO-9001 certified.

Its most sophisticated and world-leading systems, such as its Ka-band satellite on the move terminal, Ku-band E1000 microwave radio link, are testament to the company's expertise in developing complex systems that also integrate multi-frequency antenna feeds, digital signal processing, filtering and demodulation, and firmware and mechanical control subsystems.

Narda Test Solutions
@L-3 booth # 525
www.agfranz.com/narda-satellite/

Narda Test Solutions designs and manufactures highly sensitive signal analyzers for RF interference detection and monitoring (rack-mountable and portable).

At the MILCOM Show Narda Test Solutions will be showcasing the **Narda Remote Spectrum Analyzer NRA 6000**. The NRA is a 1RU rack mountable, high speed (12 GHz/sec), low-power fan-less test-equipment that can be and has been integrated and remotely controlled in various monitoring systems.



Narda NRA 6000

The wide bandwidth (9kHz-6GHz) of the NRA-6000 enables the operator to simultaneously monitor a variety of signals with up to 600,000 samples per sweep. The NRA-3000 model (9kHz-3GHz) is optimized for satellite signal interference monitoring and troubleshooting. The high-speed I/Q data streaming capability is ideally suited for signal identification and characterization. For further signal analysis and decryption the NRA has been integrated with the Krypto500 suite from COMINT Consulting.

The Narda RF signal analyzers are available in North America through A.G.Franz, LLC (www.agfranz.com)

**Visit Satellite Markets and Research at
MILCOM 2014 at booth # 451**

Metric Capital Invests in Signalhorn

Backnang, Germany, September 16, 2014--Signalhorn announced that Metric Capital Partners (MCP), a European private equity firm, has provided capital that will allow Signalhorn to expand its global operations into new markets.

Signalhorn is a privately held company that provides highly secure, customized communication solutions using satellite, terrestrial and wireless connectivity from its technical centers in Backnang, Germany and Leuk, Switzerland. The company's customers include a wide range of government agencies, energy firms, retail and banking networks, and other private enterprises worldwide.

"We are thrilled to be partnering with Signalhorn and to provide the Company with the growth capital needed to expand its global footprint in order to service new markets and customers," said Phil Dougall, Partner of MCP. "Our investment provides the Company with the necessary capital to execute its

growth strategy and take advantage of the opportunities in today's telecommunications market."

Robert Kubbernus, CEO of Signalhorn, added, "MCP's investment comes at an



exciting time in the history of Signalhorn. With this investment, we are in a strong position to capitalize on the changes in the telecommunications and satellite industry while continuing to offer the secure, flexible and reliable services customers depend on."


John Sinik, Managing Partner of Metric Capital, said the financing of Signalhorn constitutes the maiden investment of MCP's second fund.

"This investment is fully in line with our investment strategy and clearly demonstrates the continued necessity for

alternative financing solutions in the European mid-market," Sinik said.

Signalhorn and MCP were advised in the transaction by Houlihan Lokey and Trinity Advisers. King & Wood Malleons SJ Berwin provided legal advice to MCP and Russell Cooke advised Signalhorn on legal matters.

Signalhorn is a global provider of premium network services and communications solutions using terrestrial, satellite, and wireless technologies, with a 40-year history of continuous operations.

Launched in September 2011, Metric Capital Partners is an independent private capital group which invests in European small and medium-sized firms by providing debt and equity solutions to support the execution of strategic transactions including MBOs, MBIs, growth/development capital, refinancing and rescue financing. 

IDC Continues to Post Losses in 2nd Q Fiscal 2015


Ottawa, Canada, September 4, 2014-- International Datacasting Corporation (IDC) (TSX:IDC), announced its financial results today for the first half and second quarter ended July 31, 2014. Total revenues and financial results decreased from the same period in Fiscal 2014, however compared with the previous quarter both product revenues and margins improved.

Revenues totaled CDN\$ 2.6 million for the second quarter of Fiscal 2015, 46% lower than the prior year's second quarter. The decrease was primarily due to the non-renewal of the Canadian Forces Radio and Television service, as well to the deferral of certain orders for data and digital cinema products to future quarters. The total gross margin for the quarter improved to 47% from 45% for the comparable prior period, primarily due to a more favorable mix of products sold as well as reduced overheads. IDC incurred a net loss of CDN\$ 1.3 million in the second quarter,

compared to a loss of CDN\$ 0.4 million in Fiscal 2014.

When comparing IDC's second quarter product sales with the first quarter of Fiscal 2015, revenues increased by 14% and gross margins improved from 34% to 50% in the quarter. These results reflect more favorable margins from sales of newer products as well as reductions in overhead costs. While total revenues in the first half of Fiscal 2015 decreased by 47% from the previous year, deferred revenues doubled to CDN\$ 1.0 million at July 31st, 2014 as compared to January 31, 2014. These deferred revenues will be recognized in future quarters.



At July 31, 2014, IDC's working capital was CDN\$ 5.0 million, including CDN\$ 1.8 million in cash. In addition, on September 3rd IDC received a commitment from a major financial institution for a new financing facility that will provide up to CDN\$ 1 million of additional liquidity. 

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Proactive Energy Appoints Jean-Robert Barallon as CEO

Houston, Tex., September 26, 2014-- Proactive Energy, has appointed **Jean-Robert Barallon**, a long-time industry veteran, to the position of Chief Executive Officer.

He is based in Houston, Texas. The addition of Barallon to the already strong Proactive Energy management team in Houston with Bob

Pritchard as COO and Hakan Parker as CTO, is part of the company's strategic initiatives to drive growth, integration, operational best practices and industry leading customer service. This includes the establishment of Proactive Energy in Mexico, operational since early 2014, and a regional office to address the EMEA region shortly.

Prior to joining Proactive Energy, Barallon built an excellent reputation with companies large and small over a 35 year period, holding senior management positions at Cable & Wireless, Intelsat, Newtec and IPX International Systems, the latter while serving the Oil & Gas community in West Africa.

More recently, Barallon held the position of Chief Commercial Officer at Hawaii Pacific Teleport based in Kapolei, Hawaii, supporting the needs of Government and Commercial customers in the US and the Asia Pacific region.

UltiSat Appoints David H. Liddle as Chief Commercial Officer

September 9, 2014 - **UltiSat** has appointed **David H. Liddle** as its Chief Commercial Officer. As a member of the executive team, Liddle will lead the company's worldwide sales, business development, marketing, strategy, and product-management teams and man-

age the revenue-acquisition and retention outreach.

Before joining UltiSat, Liddle spent seven years at Comtech EF Data where he was vice president, U.S. and Canada, Sales and Government Programs. Prior to that his other satellite industry experience includes senior management positions at Verestar, Comsat, and GTE Spacenet. In addition, Liddle has held board positions with several companies and was president and chief operating officer for Kell Systems, Inc., a manufacturer of soundproof, IT server cabinets that was acquired by Schneider Electric.

Telesat Appoints New VP, International Sales

Ottawa, Canada, September 11, 2014 - Telesat announced the appointment of **Tom Eaton** as the company's Vice President, International Sales. Based in Washington, D.C., Eaton will report to Telesat's President and CEO and also will serve on the executive committee of the company.

Telesat also announced that Nigel Gibson, who has served as the company's Vice President, International Sales operating

out of Telesat's London, UK office since 2009, has chosen to leave the company following a transition of his responsibilities to Eaton. These changes follow the company's decision to relocate the Vice President, International Sales position from Europe to the Americas.

Eaton was formerly the President of Harris CapRock Communications. Prior to that he was the President of CapRock Government Solutions and then Chief Operating Officer of

CapRock Communications. He also served as PanAmSat's Executive Vice President, Global Sales and Marketing and then as their President of G2 Satellite Solutions.

RigNet Names Jensen, VP, Energy Maritime

September 15, 2014 - **RigNet**, a global provider of managed remote communications, telecoms systems integration and collaborative applications dedicated to the oil and gas industry, announced that **Pål Jensen** has been appointed to the position of vice president - Energy Maritime.

Initially based in Oslo, Norway, Jensen will be responsible for leading RigNet's business of providing remote communications solutions to maritime vessels operating in upstream oil and gas around the globe. Jensen has more than 15 years of global experience in the remote communications industry.

His most recent executive position was as president of the Maritime Division at Harris CapRock Communications. Prior to that he was vice president of Maritime Sales at CapRock.

Earlier in his career, he was vice-president at Telenor Satellite Services, where he was responsible for leading the SeaLink division, which served the energy maritime market.

Universal Space Network Appoints New VP of National Security Space Programs

Horsham, PA, Sept. 24, 2014 - Universal Space Network (USN) and its Board of Directors announced the promotion of **Erik Eliassen** to Vice President of National Security Space Programs for USN, based in Horsham, Pennsylvania.

"Since joining USN, Erik has worked diligently to expand USN's presence in the marketplace," said USN President and CEO John Williams.



JR Barallon



Tom Eaton

Eliassen previously served as Director of National Security Space Programs and Strategy for USN. Most recently, he led USN's effort to win the Air Force Satellite Control Network (AFSCN) commercial provisioning study contract.

IDC Appoints Daniel Thunberg as VP, International Sales

Ottawa, Canada, September 5, 2014--International Datacasting Corporation (IDC), a broadcast technology provider, announced the appointment of Daniel Thunberg as Vice-President, International Sales. Thunberg will be responsible for growing IDC's business in the EMEA and APAC regions, and will report to Doug Lowther, IDC President & CEO.



"We are pleased to have Daniel on board," said Doug Lowther, IDC President & CEO. "His global experience will serve IDC well as we introduce our new products and continue to build our emerging market presence."

Thunberg joins IDC with a wealth of experience in the broadcast industry, and has held roles in Sales, Sales Operations, Marketing, and Product Management with industry leading companies. Most recently, he was SVP, Europe and Asia for Píksel, a US based provider of internet TV solutions. His previous roles include VP, Online Sales APAC and VP Marketing at Irdeto.

NSR Adds Ali Younis to Satellite Research Team

Wilmington, DE, September 2, 2014--Research and consulting firm NSR announced the appointment of Ali Younis to the position of Analyst, Satellite Communications. Based in Washington, D.C., Younis will expand NSR's leading FSS/HTS coverage across all satellite

applications and markets.

Younis joined NSR as an Analyst, primarily supporting the FSS/HTS and Satellite Applications business areas. Younis brings several years of experience in the satellite industry to NSR. After obtaining his bachelors and masters degrees in communications engineering from the Technical University of Munich (TUM), he obtained an MBA

from the Collège des Ingénieurs (CDI) in Paris upon which he was recruited by SES in Luxembourg.

After two years in various engineering and business development roles, Younis joined O3b Networks as a strategy development and product marketing officer.



Thaicom's CEO Named Satellite Executive of the Year at APSCC Awards

Phuket, Thailand, September 24, 2014 - Thaicom's CEO Suphajee Suthumpun has been named 'Satellite Executive of the Year in the Asia-Pacific' by the Asia-Pacific Satellite Communications Council (APSCC). Suthumpun was recognized at the organization's tenth annual awards ceremony, which took place at the JW Marriott Phuket Resort & Spa, in Phuket, Thailand, as part of the APSCC's 2014 Satellite Conference and Exhibition, 'New Landscape For Satellites: Asia and Beyond'. Appointed as the CEO of Thaicom in August 2011, Suthumpun turned Thaicom into profit in her first quarter at the company. Since then, she has managed to continue the profitability for 12 consecutive quarters. In the year 2013, the company has announced a consolidated net profit of 1.1 billion Baht, an increase of 548 percent over the previous year.



Suphajee Suthumpun

Under Suthumpun's leadership, Thaicom has been focusing on developing and implementing strategic directions with an aim to grow profitably and sustainably. The company has three new satellites – Thaicom-6, which was launched in January 2014, Thaicom-7, which was launched on September 7th this year, and Thaicom-8, which will be launched by the first half of 2016. In addition, Thaicom has been moving into new territories, namely Africa. The company also now focuses on providing end-to-end solutions, such as the first high speed Ku-band In-Flight connectivity in Asia-Pacific. Thailand's number one premium low cost airline Nok Air launched the service on September 23rd.

"While we have strengthened the company's financial and business performance, we have also concentrated on setting strong foundations for growth, which are creating innovative technology and business solutions. We believe that embracing partnerships, creating growth for the industry and contributing to the society where we operate, are the ways to create sustainable growth for Thaicom," said Suthumpun. "It is my great pleasure and honor to receive the APSCC award. I would like to present this award to Thaicom's Board of Directors, Thaicom's management and staff, our customers and our partners, who have always been supporting Thaicom and who actually make this happen," she added.



MILCOM 2014

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The premier international conference and exposition for military communications, MILCOM 2014 showcases the technical innovations and creative talents of military, academic and industry leaders. Attendees will experience an in-depth technical program with industry exhibits, panel discussions and tutorials, which are eligible for continuing education units.

Technical tracks and topics include:

Cyber Security and Trusted Computing

Waveforms and Signal Processing

Networking: Architectures, Management, Protocols and Performance

System Perspectives

Selected Topics in Communications



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Satellite Operators Driving Efficiencies via HTS and M&As

Wilmington, DE September 30, 2014 - NSR's [Satellite Operator Financial Analysis \(SOFA\), 4th Edition](#), finds that operational efficiency is more important than ever for satellite operators, with many taking a multi-pronged approach to increasing productivity. This trend is not limited to acquisitions, but also extends to HTS payloads being launched.

"We are seeing a fundamental transformation within the satellite telecommunications industry. Economies of scale the likes of which we have never seen, powered by not only M&A but also HTS payloads delivering previously unimaginable throughput, will have an immense impact upon the financial dynamics of the industry moving forward," states Blaine Curcio, Senior Analyst and report author. "The impetus is now on the Big Four to capitalize on their increased efficiencies and on the regional players to further diversify their value propositions without this combination, we will see a divergence between the haves and have-nots of the sector, and long-term, extensive consolidation," adds Curcio.

An example of this phenomenon of huge potential for HTS payloads would be Avanti Communications, which is covered extensively in the report. Avanti currently has a fleet of 3 satellites plus 1 on order, and the company has publicly stated these satellites are capable of generating revenues of up to \$700M this would make them the 5th largest operator in the world by revenue despite having only 3 dedicated satellites and ARTEMIS, an ESA-purposed satellite. Big revenues? Yes. Big fleet? Absolutely not.

Beyond this phenomenon, 2013 was an inflection point in terms of satellite operators. In recent years, NSR's past SOFA analyses noted regional players

seeing faster growth rates than the Big Four. 2013 changed that in a big way, with Eutelsat's acquisition of Satmex leading the way for the Big Four to seeing nearly 5% revenue growth, compared to nearly 4% revenue decline for everyone else. The fastest growth was again seen by the top regional operators, with companies such as Arabsat, APT Satellite, and Avanti setting the pace. However, unlike 2012, two of the Big Four saw nearly 10% growth rates, with SES and Eutelsat benefitting from currency fluctuations and Eutelsat's acquisition of Satmex, and as such seeing their collective revenues increase by nearly US\$ 400 million in 2013.

NSR's [Satellite Operator Financial Analysis \(SOFA\), 4th Edition](#), provides industry-leading analysis and comprehensive research on all aspects relating to the financial side of the FSS sector. With financial data taken from 6 fully-reporting operators, 7 partially-reporting operators, and 11 other operators from which data was derived from industry-recognized sources, SOFA4 is unparalleled in its level of detail and scope of data, supplemented by unique NSR analysis and insights. For additional information on this report, please visit www.nsr.com, or call NSR at +1-302-295-4981.



Calendar of Events

October 6-8, 2014, **MILCOM 2014**, Baltimore Convention Center, Baltimore, MD, Contact: AFCEA Events, Phone +1-703-631-6130, E-mail: events@afcea.org Web: www.milcom.org

October 27-30, 2014, **CASBAA Convention 2014**, Hong Kong, Contact: Cherry Wong, Phone +852 3929 1714, E-mail: cherry@casbaa.com Web: www.casbaa.com

28-29 October 28-29, 2014, **VSAT Mobility 2014**, The Mira Hotel, Hong Kong Phone: +44 (0)20 7017 5506 E-mail: itmevents@informa.com Web: www.mobility.vsatelvent.com

October 28-30 2014, **China Satellite 2014**, Beijing, China, Contact: Tel: +86-10-58494900 Email: patjzhang@outlook.com Web: www.china-satellite.org

November 4-6, 2014, **Global Milsatcom 2014**, London, UK, Phone: +44 (0) 20 7827 6000 E-mail: events@smi-online.co.uk Web: www.smi-online.co.uk/defence/uk/conference/global-milsatcom

November 12-13, 2014, **SATCON 2014**, Javits Convention Center, New York City, contact: E-mail ccw@nab.org Web: www.satconexpo.com

12-14 November 12-14, 2014, **VSAT Africa**, CTICC, Cape Town, South Africa, Contact: Tel: +44 20 7017 5506 Email: itmevents@informa.com Web: <http://africa.vsatelvent.com>





Africa's Continued Social Development Depends on C-Band Services

London, UK, September 25, 2014 New research has revealed that wireless industry efforts to take massive amounts of additional spectrum - amounts that have been shown to be in excess of actual requirements - would undercut African economies, and threaten social and safety-of-life services by disrupting mission-critical satellite services for key applications delivered throughout the continent.

The research, which was conducted by international consultancy firm Euroconsult and commissioned by the European Space Agency, was revealed here during the VSAT 2014 conference, as organizations representing a variety of African user groups - including broadcasters, humanitarian and disaster-response agencies, civil aviation authorities, and other stakeholders - reach out to their governments to convey how essential C-band satellite services are for continued socio-economic development.

"Euroconsult's report reaffirms what African governments, industry, and millions of individuals have long taken for granted," said David Hartshorn, Secretary General of GVF, the London-based global association of the satellite communications industry. "C-band satellite services provide highly reliable, cross-border and continental broadband connectivity that is a cornerstone of African socio-economic growth. We endorse Euroconsult's conclusion and commend the European Space Agency for commissioning this timely research."

Euroconsult, which recently confirmed similar reliance on C-band satellite in the Asia region (www.casbaa.com/CBandAssessment), examined three country markets representative of the diverse economies of southern, western and central Africa, and found that - in addition to the millions of consumers who rely on C-band television - the wireless, banking and finance, energy production, civil aviation, and government sectors were particularly reliant on satel-

lite networks using C-band spectrum, which is prized for its reliability and scope of coverage.

"These findings stand in stark contrast to claims made by representatives of the wireless industry which, regardless of the consequences, are attempting to seize C-band for their own use," Hartshorn said. "C-band communications are being represented by wireless manufacturers from Developed Countries to be of declining importance, but that is clearly not true in Africa, most of Asia, Latin America and other regions where conditions are fundamentally different than

in South Korea, Japan, and Sweden. In particular, C-band communications are part of the bedrock of daily life and economic activity in Developing Countries."

A sample of African uses of C-band networks described in Euroconsult's report included:

- **Nigeria:** The National Broadcasting Commission (NBC) of Nigeria says TV households reached over 11 million in 2013, representing a 33% penetration, and they are highly reliant on C-band satellite capacity, principally for contribution to earth stations. Given the fact that terrestrial reception remains the principal TV reception mode for a large part of the population, C-Band is required for the Nigerian television industry to operate.
- **Democratic Republic of the Congo:** For DRC's 25 - 30 million mobile subscribers, satellite remains a primary option to connect a large part of mobile networks, and ISPs are currently using C-band capacity as primary backbone network for International connectivity. Despite the introduction of fiber connectivity in certain cities, its limited reach, as well as concerns on data-rate availability and transmission reliability, means that C-band capacity remains the primary option or a mandatory backup option for connectivity.
- **Angola:** According to IMF, oil revenue accounted for almost 80% of total government revenue and grants in





Africa C-Band, continued from previous page

2011. As most of the oil exploration in the country is through deep-water projects, VSATs are a major communication channel for the industry. C-band is preferred, as the oil fields in the west coast are affected by high rainfall and energy companies typically require reliability levels above 99%.

- All Three Nations have recently recorded increasing investment that has contributed to a boosting of their economies. A key segment is banking. C-band satellite connectivity facilitates the opening of new branches. This in turn favors banking inclusion by giving access to banking services for millions of existing and new customers. The use of C-band capacity for video distribution and contribution links will also be very important for the rollout of digital terrestrial television, which will accelerate in the next few years in most of Africa.

The report notes that C-band communications benefit from

two physical characteristics that make it central to Africa's environment: resistance to "rain fade" and availability of wide beams. "There is simply no substitute that can equal the coverage and the reliability of C-band satellite beams," says Hartshorn. As a result, billions of dollars have been invested in C-band satellites over Africa, providing almost half of the total satellite capacity used in the region.

"Between now and November of 2015 - the date of the World Radiocommunication Conference in Geneva - national administrations will be making key decisions on spectrum priorities," said Hartshorn. "African governments need to factor Euroconsult's analysis and conclusions regarding the huge contribution by satellite C-band communications to their populations and their economies."

Copies of the full report can be downloaded from www.satellite-spectrum-initiative.com.

OTT Revenues to Reach US\$ 42 Billion by 2020

London, UK, September 25, 2014--Global online TV and video revenues (over fixed broadband networks for 51 countries) will reach US\$ 42.34 billion in 2020; up from US\$ 3.96 billion recorded in 2010 and the US\$ 19.03 billion expected in 2014, according to a new report from Digital TV Research.

The US will remain the dominant OTT TV territory for online TV and video revenues, according to the Global Online TV & Video Revenue Forecasts report. However, its share of total revenues

will drop from 59% in 2010 (when the US recorded revenues of US\$ 2,326 million) to 37% in 2020 (US\$15,527 million) as the international markets catch up. China's online television and video revenues will soar from just US\$ 37 million in 2010 to US\$ 3,033 million in 2020 – to push China up to third place in the world rankings (with Japan in second place).

Online TV and video advertising has been the key driver for the OTT sector, with revenues of US\$ 8.3 billion expected in 2014, up from US\$ 2.4 billion in 2010. Rapid advertising expenditure growth will continue, to reach a global total of US\$ 18.1 billion in 2020.



Online television and video subscription revenues [SVOD] will climb from US\$ 1.06 billion in 2010 to US\$ 7.65 billion in 2014 and onto US\$ 16.77 billion in 2020. This means that SVOD will contribute 40% of total OTT revenues in 2020, up from 27% in 2010.

The US generated online TV and video subscription revenues of \$793 million in 2010, or 75% of the global total. Although its revenues will climb by 667% to US\$ 6,086 million, the US will only account for 36% of the 2020 total. Online TV and video rental/pay-per-view revenues will expand rapidly, climbing from US\$ 197 million in 2010 to US\$ 2,800 million in 2020. Download-to-own revenues are forecast to be US\$ 4,641 million in 2020, up from US\$ 332 million in 2010.



Global Survey of Media Executives Reveal that Ultra HD TV is Headed for Broad Adoption

Luxembourg, September 9, 2014 – Since it was first announced, 4K Ultra High Definition Television (4K UHD TV) has been met with both excitement and skepticism within and outside of the media industry. According to new research from satellite operator Intelsat, 4K UHD TV will be mainstream within 10 years.

In fact, 42% of Intelsat's survey respondents stated that they have made a firm decision to launch a 4K UHD TV service and have a specific timeframe for its roll out (23% within the next four years). The main driver cited by media companies was the ability to provide the competitive differentiation necessary to attract new subscribers to their linear broadcast and cable television channels.

Intelsat surveyed technical and non-technical (primarily marketing) media executives from its global customer base, which is comprised of many of the world's largest media companies that conduct business on a regional and global basis. The nearly 80 respondents represent a statistically significant sample of the pool of potential respondents.

While the majority of respondents believe that 4K UHD TV adoption is inevitable—in stark contrast to initial views of the 3DTV trend from several years ago—there is disparity in terms of what segments and business models are regarded as likely to adopt 4K UHD TV first, with non-technical executives having significantly different views from technical executives. Digital cinema (38%), over the top (OTT) and direct-to-home (DTH) are the most widely mentioned segments for 4K UHD TV to gain momentum and those views differ sharply between technical and non-technical participants. In addition, 60% point to video on demand as the business model expected to first gain momentum, almost double the 34% stating that linear channels will be the first to do so.

"While it is becoming more evident that the transition to 4K UHD TV is highly likely, the road to adoption will take many paths, given the business model evolution resulting from the multi-screen viewing environment," stated Peter Ostapiuk, Vice President, Media Product Management, In-

telsat. "As with high definition television, socio-economics, demographics and technology infrastructure will determine the adoption timeline. This time, however, media companies are more focused on building the right business model that will enable them to deliver high quality and reliable content delivery across multiple platforms and, at the same time, achieve a strong return on their investment," he added.

Media professionals surveyed believe that the pace of 4K UHD TV adoption will vary by region. For example, 47% believe 4K UHD TV will first take hold in Asia Pacific; 34% expect North America to be the early adopter and only 16% believed Western Europe would be the first to roll out the new technology.



While Media Professionals are Optimistic about 4K UHD TV, Critical Factors Necessary for Accelerated Timeline to Take Hold Respondents cited higher transmission and content production costs (67%), availability of more efficient transmission technologies (62%), affordable television sets (51%) and ability

to achieve a return on their investment (71%) as issues of greatest concern to them going forward. Roughly a third of those surveyed stated that a critical mass of content (38%), sufficient household penetration (35%) and available 4K UHD TV-enabled set top boxes (31%) are important factors in accelerating the roll-out of 4K UHD TV. Movies (53%) and sports (42%) are the most widely identified types of 4K UHD TV content expected to gain momentum first.

"Satellite will positively impact the adoption of this new and exciting technology and serve as a strategic partner to media customers," continued Ostapiuk. "It's clear that our customers will introduce 4K UHD TV as a way to distinguish their brands, and the ubiquitous and extremely high quality of satellite will deliver an immersive experience with cost efficiency. With the ability to easily handle transmission of multiple viewing formats across a hybrid distribution infrastructure, Intelsat is prepared to support this emerging growth opportunity for our global media customers."

Find out more at: <http://www.intelsat.com/blog/media-blog/4k-uhdtv-moving-from-pause-to-pushing-play/>





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VSAT 2014 Highlight New Opportunities for Satellite

by Virgil Labrador, Editor-in-Chief

The VSAT 2014 Conference and Exhibition was successfully held at the Millenium Gloucester Hotel in London, UK from September 17-19. Over 200 attendees were feted to interactive sessions, networking events which included the Annual VSAT Industry Awards ceremony.

The conference was kicked off by a provocative presentation by Simon Bull of Comsys, who provide an overview of the state of the global VSAT market. Among the highlights of his presentation include:

- Total VSAT sites in service grew by almost 20% in 2013.
- Over 3.5 million VSATs now in service worldwide.
- USA led the way with 25% year-on-year growth.
- Europe and Africa grew by 21% and 19% respectively.
- However, the North American consumer business really fuelled the fire.
- Over 400,000 net new sites and 36% growth.
- Europe and Africa consumed significantly, but from small bases.

Bull said that the VSAT market is undergoing major change and there will be challenges in the years ahead.

The conference dealt with key issues including the impact of the new High Throughput Satellites that have entered the market. Riding on the successful

launch of their latest four satellites in their constellation, O3B Networks made a compelling case for the use of the new 8-satellite all Ka-Band constellation for applications in key vertical markets such as oil and gas, maritime, cellular backhaul, among others.

Ramesh Ramaswamy, vice president of International sales and marketing at Hughes Network Systems, commented, "Across the globe, broadband satellite is delivering an ever-increasing range of applications such as distance learning in Ethiopia, rural education in India, Mexico and Russia, as well as Internet to the home in Latin America and lottery ser-

vices across Europe. This demand for higher bandwidth and quality of service is being met through advances in high-throughput satellite technology."

One of the key takeaways from the conference was the recurring theme of new market opportunities for VSAT operators. One largely untapped market was the Machine-to-Machine (M2M) market and the Internet of Things (IoT). Several speakers extolled the large potential of this market with a projected 50 billion appliances and various other machines and equipment that will be connected in the next decade.

**VSAT
2014**



One of the highlights of VSAT 2014 is the VSAT Industry Awards reception. Pictured above (center) is Irina Petrov, Marketing Manager of Onlime Business Communications which won the VSAT Marketing Campaign of the Year award. On her right is Virgil Labrador, Editor-in-Chief of Satellite Markets and Research and on her left is Elisabeth Tweedie, Associate Editor of the Satellite Executive Briefing, both members of the Board of Judges.

I was privileged to be given the opportunity to chair the session on "M2M and Remote Connectivity: Leading the Evolution of VSAT Services and Applications." In the panel we had Federico Masier, CEO of Digitaria; Martin Wiesner, Director of Stream Technologies, Garrett Hill, CEO, X2nSat; and Leonard Carey of AT&T M2M and Mobility Application Solutions. The panelists took turns in emphasizing the need for satellite service providers and equipment manufacturers to be competitive with 4G and LTE networks. Garrett Hill said that the VSATs equipment providers should continue to innovate in order to be a player in the IoT and M2M space.

Among the various networking opportunities include the reception for the VSAT Industry Awards. The winners include the following: VSAT Service Provider of the Year—Singapore Telecommunications Ltd.; VSAT Marketing Campaign of the Year—Onlime Business Communications; VSAT Technology Innovation of the Year—Hughes Networks Systems; The Changing Lives Award—SES; and The Rising Star in VSAT Award—Rodrigo González of Elara Communications.

The Satellite Markets 25 Index™

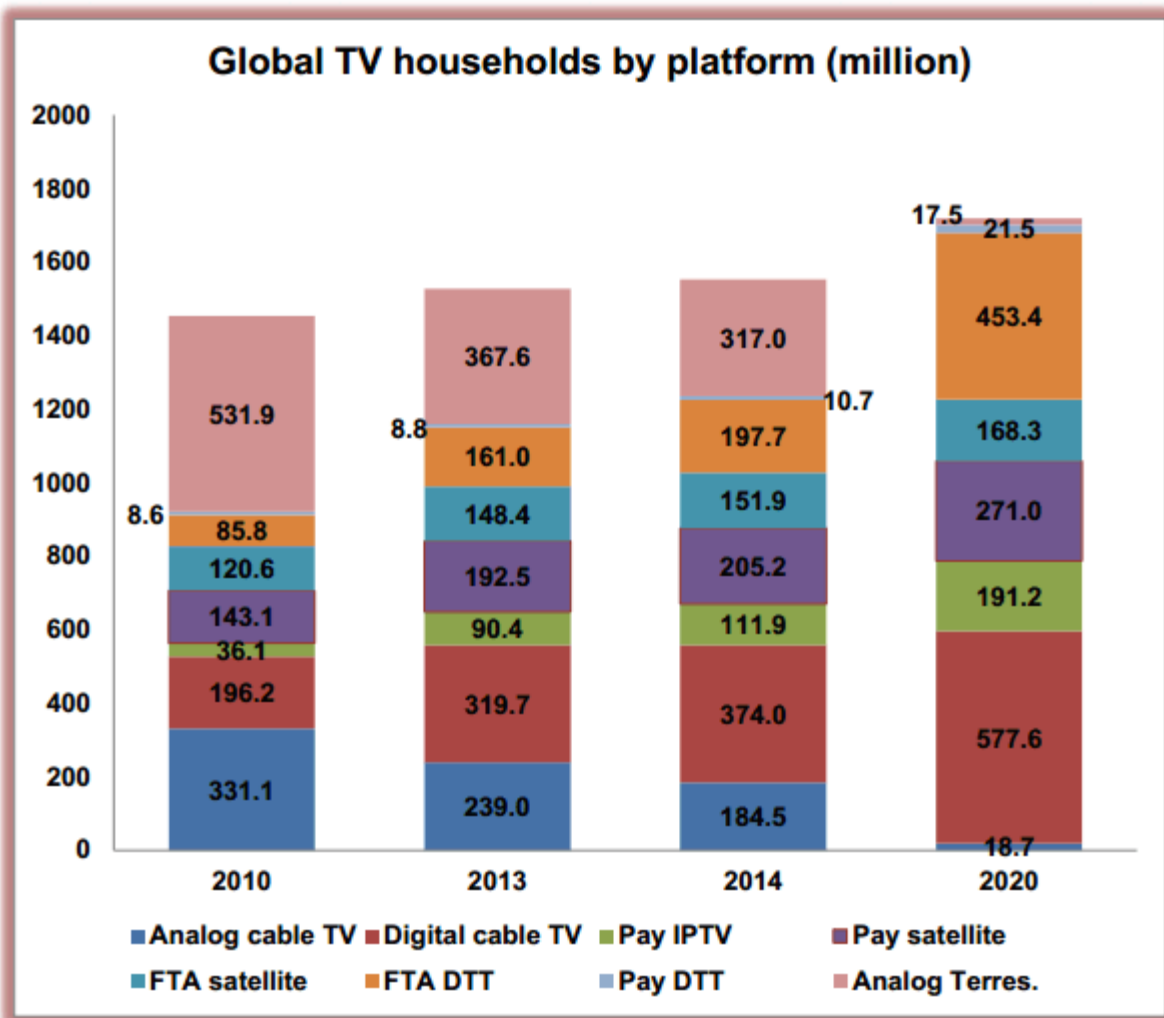
Company Name	Symbol	Price (Oct 01)	% Change from Last Month	52-wk Range			% change from 52-wk High
Satellite Operators							
Asia Satellite Telecommunications	1135.HK	26.00	-5.63%	25.60	35.00	↓	25.71%
Eutelsat Communications S.A.	ETL.PA	25.365	-1.78%	21.065	26.425	↓	4.01%
APT Satellite Holdings Ltd.	1045.HK	11.02	-4.67%	7.90	12.78	↓	13.77%
Inmarsat Plc	ISAT.L	700.00	0.00%	633.45	784.00	↓	10.71%
SES GLOBAL FDR	SES.F	27.30	-3.36%	20.837	28.663	↓	4.76%
Satellite and Component Manufacturers							
The Boeing Company	BA	124.67	-0.65%	113.34	144.57	↓	13.76%
COM DEV International Ltd.	CDV.TO	3.72	-8.82%	3.42	4.40	↓	15.45%
Lockheed Martin Corporation	LMT	177.89	2.35%	121.52	184.09	↓	3.37%
Loral Space & Communications, Inc.	LORL	71.35	-5.75%	64.53	82.13	↓	13.13%
Orbital Sciences Corp.	ORB	27.10	1.04%	20.65	34.16	↓	20.67%
Ground Equipment Manufacturers							
C-Com Satellite Systems Inc.	CMLV	1.45	2.11%	1.31	2.37	↓	38.82%
Comtech Telecommunications Corp.	CMTL	37.12	-2.34%	23.87	40.48	↓	8.30%
Harris Corporation	HRS	66.40	-6.48%	57.21	79.32	↓	16.29%
Honeywell International Inc.	HON	91.66	-4.02%	81.04	98.09	↓	6.56%
ViaSat Inc.	VSAT	55.09	-4.16%	51.50	74.78	↓	26.33%
Satellite Service Providers							
Gilat Satellite Networks Ltd.	GILT	4.90	2.30%	4.09	5.71	↓	14.19%
Globecom Systems Inc.	GCOM	14.10	0.00%	10.49	14.91	↓	5.43%
International Datacasting Corporation	IDC.TO	0.0750	-11.76%	0.07	0.20	↓	62.50%
ORBCOMM, Inc.	ORBC	5.65	-10.03%	5.24	8.21	↓	31.18%
RRSat Global Communications Network Ltd	RRST	6.60	-11.53%	6.60	9.60	↓	31.25%
Consumer Satellite Services							
British Sky Broadcasting Group plc	BSYBY	57.71	-2.40%	51.38	63.79	↓	9.53%
DIRECTV	DTV	86.59	-0.14%	57.40	89.46	↓	3.21%
Dish Network Corp.	DISH	63.60	-3.64%	45.20	67.50	↓	5.78%
Globalstar Inc.	GSAT	2.98	-23.98%	2.33	4.53	↓	34.22%
Sirius XM Holdings Inc.	SIRI	3.42	-6.04%	2.98	4.18	↓	18.18%

INDEX	Index Value (Oct 01)	% Change from Last Month	% Change Jan. 03, 2014
Satellite Markets 25 Index™	1,691.76	-1.33%	-1.12%
S & P 500	1,946.16	-2.80%	6.27%

The Satellite Markets 25 Index™ is a composite of 25 publicly-traded satellite companies worldwide with five companies representing each major market segment of the industry: satellite operators; satellite and component manufacturers; ground equipment manufacturers; satellite service providers and consumer satellite services. The base data for the Satellite Markets Index™ is January 2, 2008--the first day of operation for Satellite Market and Research. The Index equals 1,000. The Satellite Markets Index™ provides a benchmark to gauge the overall health of the satellite industry.

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Based on forecasts for 138 countries, the number of digital TV homes will increase by more than 1 billion between 2010 and 2020 to 1.68 billion – or up by 185%, according to a new report from Digital TV Research. The [Digital TV World Household Forecasts](#) report estimates that the digital TV total will climb by 131 million in 2014 alone.

Global digital TV penetration will reach 97.9% of television households by end-2020, up from 40.5% at end-2010 and 67.7% at end-2014. By 2020, 94 countries will be completely digital compared with only 12 at end-2013. About 124 countries will have more than 90% digital penetration by 2020.

Of the 762 million digital TV homes to be added between 2013 and 2020, 258 million will come from digital cable. Primary FTA DTT [homes taking DTT but not subscribing to cable, DTH or IPTV] will acquire an additional 292 million. Pay IPTV will more than double to 191 million, with pay DTH up by 79 million.

Digital cable will become the most popular TV platform in 2014, accounting for 33.6% of the world's TV households in 2020 (up from 20.9% in 2013). Digital cable TV penetration will exceed 50% of TV households in nine countries by 2020, with Belgium leading at 64.9%.

Pay IPTV penetration will climb to 11.1% by 2020, up from only 2.5% at end-2010. IPTV penetration will exceed 20% of TV households in 20 countries in 2020; led by Iceland (68.2%).

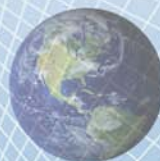
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