

Challenges Ahead for the Military Satellite Market

But long term prospects are good...

by Virgil Labrador, Editor-in-Chief

Despite the not so bullish mood the satellite industry finds itself in with respect to the military satellite market, a recent report by NSR projects that the industry will generate US\$ 5 billion in revenue growth by 2022 primarily from rising transponder and bandwidth demand of UAVs and airborne manned missions.

The positive impact of HTS and MEO-HTS services for mobility applications (maritime, aeronautical and land-mobile) as well as comms-on-the-pause, fixed VSATs and bulk leasing, will also play important roles in the market growth, according to NSR.

The growth in the military satellite market, despite the budgetary cuts across the board in the US military budget and the withdrawal of forces in Afghanistan, has been reaffirmed by several other research firms.

Research and Market published a recent study that values the global military satellite market at US\$11.8 billion in 2012, and will increase at a Compounded Annual Growth Rate (CAGR) of 3.9% during the forecast period, to reach US\$17.3 billion by 2022. The market consists of three categories: communications, Intelligence, Surveillance



The withdrawal of US and other allied forces from Afghanistan in 2014 will have short-term negative effect on the military satellite market but long-term prospects are still good.

and Reconnaissance (ISR) and navigation. The communications segment is expected to account for 52.8% of the global military satellite market, followed by the ISR segment with a share of 28.4%, and navigation with the remaining 18.8%.

NSR acknowledges, however, that before a growth phase takes place however, there will be a lull in the coming years, due to government budget cuts and the hit satellite communications will take from the withdrawal of troops from Afghanistan and Iraq. Despite some regional hotspots and the impending strategic shift of the U.S. towards Asia that could drive demand, NSR's study points to a real dilemma that could negatively

impact market growth.

“Governments are weighing the fine balance between cost and efficiency with the latter often taking a backseat in times of uncertainty,” said NSR Senior Analyst and report author, Claude Rousseau.

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Join us these year in honoring these finalists at the reception at SATCON. To confirm your attendance just send me an e-mail at virgil@satellitemarkets.com

We look forward to seeing you there.



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Military Satellite Market ...From page 1

“Furthermore, the build-up of proprietary military capacity on top of the incoming onslaught of cheaper commercial HTS and MEO-HTS satellite supply will impact traditional high revenue growth for FSS and MSS operators in the coming decade,” Rousseau added.

“There is still a clearly identified need for commercial satellite communications to play an integral part of governments’ future network architectures, for mobility in particular, that will translate into demand for FSS transponders, MSS and HTS/MEO-HTS bandwidth” said Rousseau.

“We expect fairly strong growth for

aeronautical and UAV platforms, but the crux of the matter for our forecast resides in the industry addressing the needs for ongoing requirements while demonstrating that cost-effective solutions from new systems can bring savings across the board.”

Despite the good projections in the

long-term, the Research and Markets study from ASD reports acknowledges that as part of new spending strategies to cope with budget cuts, defense departments around the world are exploring alternatives to reduce their costs. For this reason, the military satellite industry is gradually undergoing a transition towards selecting commercial providers against defense agencies for its programs, the research firm said.

The North American and European regions account for an estimated 80 percent of global defense spending, according to ASD Reports. These countries are among the hardest hit by the global financial crisis. In response, the governments of these nations have put in place stringent measures, which have

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Russian satellite operator Gazprom Space Systems presents the new Yamal-402 satellite opportunities to the International Market.

Yamal-402 satellite, built by Thales Alenia Space (France), was launched in December 2012. It has 46 Ku-band transponders (66 equivalent transponders 36 MHz each). Together with Russian and Northern beams the satellite includes:

- **European Beam** with four transponders 54 MHz each covering the territory of Western and Central Europe, the Middle East and Northern Africa;
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- Southern and European beams are cross-strapped.
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Steerable Beam and Northern Beam are cross-connected.

SOUTHERN BEAM

NEW OPPORTUNITIES FOR INTERNATIONAL MARKET

resulted in reduced defense budgets and the cancellation and delay of various military satellite programs. But for the most part, the cutbacks in spending may affect more the high ticket projects such as large capital vessels or new aircraft as opposed to military satellite communications, which are essential in intelligence, surveillance and reconnaissance requirements that deliver situational awareness to armed forces around the world.

There are already some glimmer of hope. Just before the US government shutdown last month, approx. US\$ 4.1 billion of Department of Defense contracts were awarded to companies such as AT&T, L-3, Globecom Systems, Harris and General Dynamics, among others, for a variety of communications systems.

Still, NSR admits that revenues in the short-term will probably decline, and the mid-term outlook looks somewhat fuzzy at best, but long-term the military

satellite market prospects are good. Satellite companies are already seeing higher levels of equipment sales to government customers in their revenues for the first half of 2013.

With current defense spending lopsidedly concentrated in North America and Europe, cuts in those countries will only shift the burden to other countries, who will still need to provide for their own defense requirements. Hence, the projections that the overall military satellite market *globally* will continue to grow through the next decade. However, there most certainly will be a shift in where the revenues will be coming from.

The much touted “Pivot to Asia” in

military priorities is very real, with China’s military expansion and North Korea’s nuclear threats. The oil-rich South China sea is a very contentious area with territory claimed by several countries and China domineering presence in the region.

The military requirements have also change in the face of current threats from global terrorism. The new demands on the military lends itself well to satellite technology as opposed to conventional armaments. Thus, analyst see potential for the satellite market in new technologies such as Unmanned Aerial Vehicles (UAV) taking a bigger role in the future.



Virgil Labrador is the Editor-in-Chief of *Satellite Market and Research* based in Los Angeles, California. He is the author of two books on the satellite industry and has been covering the industry for various publications since 1998. Before that he worked in various capacities in the industry, including a stint as marketing director for the Asia Broadcast Center, a full-service teleport based in Singapore. He can be reached at

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Space Tourism: Ready for Takeoff?

by Peter Galace

The space tourism industry, which has been long delayed on its promises, is starting to take off. Since 2005, suborbital flights have been guaranteed and in fact, more than 500 people have reserved and paid deposits for the flights. But until today, regular suborbital space tourism flights have yet to happen after eight years. But because of the great interest shown by many people, a number of companies now view it as a money-making proposition and have in fact ventured into it. Most are proposing vehicles that make suborbital flights peaking at an altitude of 100–160 kms. Passengers would experience three to six minutes of weightlessness, a view of a twinkling starfield, and a vista of the curved Earth below. Projected costs are expected to be about US\$ 200,000 per passenger.

But the long wait is coming to an end. Towards the end of April this year, Virgin Galactic, completed the first rocket-powered flight of its space vehicle, SpaceShipTwo (SS2). The test, conducted by teams from Scaled Composites LLC (SCL) and Virgin Galactic, mark the final phase of vehicle testing prior to commercial service from Spaceport America in New Mexico.

The successful tests put Virgin Galactic, owned by British billionaire Sir Richard Branson's Virgin Group and Abu Dhabi's aabar Investments PJS, on track to be the world's first commercial spaceline and be the first private space tourism company to regularly send civilians into space.

The new spaceship (SpaceShipTwo, VSS Enterprise) and carrier craft or mothership (WhiteKnightTwo, VMS Eve) are actually scaled-up versions of SpaceShipOne and WhiteKnightOne, both developed by Mojave-based SCL founded by American aerospace engineer Burt Rutan. In 2004, SpaceShipOne claimed the US\$ 10 million Ansari X Prize when it became the world's first privately developed manned spacecraft to reach 100 kms in altitude twice in a two-week period. SpaceShipOne completed the feat while having the equivalent of three people on board and with no more than ten percent of the non-fuel weight of the spacecraft replaced between flights. Development costs of SpaceShipOne, estimated at US\$25 million, were funded by Paul Allen, co-founder with Bill Gates of Microsoft.

In 2005, Burt Rutan and Richard Bran-

son co-founded The Spaceship Company (TSC) to own the technology created by SCL for Virgin Galactic's commercial spaceline program. Originally, TSC was jointly owned by Virgin Group (70%) and Scaled Composites (30%) until last year when Virgin Group became the sole owner. TSC is now manufacturing Virgin Galactic's spacecraft, which has ordered five SpaceShipTwos and two WhiteKnightTwos, although TSC is ready to sell to other buyers.

Virgin Galactic's new vehicles being built in Mojave, Calif. will carry six passengers, or the equivalent scientific research payload or satellites on suborbital space flights. The vehicles will allow an out-of-the-seat, zero-gravity experience with astounding views of the planet Earth from the black sky of space for tourist astronauts and a unique microgravity platform for researchers. The VSS Enterprise and VMS Eve test flight program is well under way, leading to Virgin Galactic commercial operations.

Virgin Galactic plans to operate a fleet of five SpaceShipTwo spaceplanes in a private passenger-carrying service, starting next year. The company has

already accepted more than US\$ 70 million in deposits from approximately 580 individuals, which is approximately 10 percent more than the total number of people who have ever gone to space. The initial single ticket price is US\$200,000. Passengers who have already submitted their deposit include the famous astronomer Stephen Hawking, and celebrities like Tom Hanks, Ashton Kutcher, Katy Perry, Brad Pitt and Angelina Jolie.

“The first powered flight of Virgin Spaceship Enterprise was without any doubt, our single most important flight test to date,” said Sir Richard Branson, who was on the ground in Mojave to witness the test flight last April 29. “For the first time, we were able to prove the key components of the system, fully integrated and in flight. Today’s supersonic success opens the way for a rapid expansion of the spaceship’s powered flight envelope, with a very realistic goal of full space flight by the year’s end. We saw history in the making today and I couldn’t be more proud of everyone involved.”

SpaceShipTwo’s planned trajectory will make it a sub-orbital journey with a short period of weightlessness. SpaceShipTwo will be carried to about 16 kms or 52,000 ft by a carrier aircraft or mothership WhiteKnightTwo. At that point, when the carrier aircraft reaches its maximum height, the SpaceShipTwo vehicle will separate and continue to over 100 km or up to the Kármán line where "space" begins. The time from liftoff of the White Knight booster carrying SpaceShipTwo until the touchdown of the spacecraft after the sub-orbital flight will be about 2.5 hours. The sub-orbital flight itself will only be a small fraction of that time. The weightlessness will last approximately six minutes. Passengers will be able to release themselves from their seats during these six minutes and float around the cabin.

In the coming months, Virgin Galactic and SCL’s test team will expand the spaceship’s powered flight envelope culminating in full space flight, which the companies anticipate will take place

before the end of 2013.

Swiss Space Systems

Swiss Space Systems or S3 plans to launch its first unmanned suborbital spaceplanes for small satellite deployment in 2017 and launch regularly satellites up to 250 kg. (551 pounds) by 2018.

The heart of S3’s technology is the use of a reusable system it calls Suborbital Aircraft Reusable shuttle (SOAR). It features a three-stage configuration consisting of — an Airbus A300 jumbo jet using standard fuels, a suborbital spacecraft that piggybacks on the Airbus, and a disposable third stage shuttle that is used to deploy the satellites.

S3’s suborbital spaceplane is to be launched from the top of the modified Airbus that flies up to 10 kms above the Earth where the spacecraft detaches from the Airbus. Powered by liquid-fuelled engine and taking advantage of the Airbus’s initial speed and altitude, the spaceplane soars to an altitude of 80 to 90 kms above the Earth, just shy of the Kármán line, 100 kms (62 mi) above the Earth’s sea level, the internationally-recognized boundary between

the Earth’s atmosphere and outer space. From there, the disposable third stage shuttle, which carries the payload, is ejected from the spacecraft. A satellite would then deploy from SOAR’s cargo pod and ignite its own rocket motor until it reaches Earth orbit. S3’s SOAR technology is targeting to inject a satellite into an orbit up to 700 kms (434 miles) above Earth.

Compared to a conventional launcher, S3’s technology allows substantial cost savings and is ecologically ideal as nothing is lost on a flight. The main components used during the flight are re-usable. Costs are also reduced by a lower fuel-consumption than conventional systems, says S3.

S3’s operations are currently sponsored by the Swiss watchmaker Breitling with a budget of about \$270 million. The company has around 40 employees developing the SOAR space vehicle, support infrastructure, as well as the acquisition of certification with European aviation regulatory authorities.

The company plans to charge 10 million Swiss francs or roughly US\$10 million a launch per satellites weighing up to 250 kilos.



Artist’s rendering of S3’s Suborbital Aircraft Reusable shuttle (SOAR). It features a three-stage configuration consisting of an Airbus A300 jumbo jet using standard fuels, a suborbital spacecraft that piggybacks on the Airbus, and a disposable third stage shuttle that is used to deploy satellites. (image courtesy of S3)

Launched in Le Bourget, Switzerland in March 13 this year, the young Swiss aerospace company is also strengthening its network of partners and will soon start developing passenger transportation from 2018, opening another market for space tourism. The target is to develop the spaceplane so that it could also provide suborbital spaceflights to tourists, with the addition of a pressurized module.

The company was founded last year by Pascal Jaussi, a Swiss military pilot and engineer, and joined by Switzerland's first astronaut Claude Nicollier. The company plans to open its own spaceport by 2015 and begin test launches by 2017.

The project includes several partners such as Dassault Aviation, consultant aircraft maker for the shuttle's systems architecture, the Belgian Sonaca for the external structure, Space Application Services for the flight software, and the Von Karman Institute for the wind tunnel. Other partners are the Spanish Elecnor Deimos for the navigation, the Swiss Meggitt for the sensors and Spaceport Malaysia for the ground infrastructure. Its technical advisers are the European Space Agency (ESA), the Swiss Space Center, and Louvain (Belgium) and Stanford (USA) universities.

On June 17 this year, S3 announced a new partnership with Thales Alenia Space, a leading developer and manufacturer of pressurized modules, notably for the international space station. The partnership is expected to enable S3 to develop a manned version of its suborbital shuttle allowing the company to offer a very high speed mode of passenger transportation in space.

Development work, S3 says, is progressing rapidly. The technical data relating to the shape of the shuttle, its trajectory and the physical and thermal constraints are being validated prior to the first wind tunnel tests which will take place at the Von Karman Institute in Belgium in July. The certification process has also been initiated with

participation in working sessions organized by the European Aviation Safety Agency (EASA), the body responsible for the drafting of and compliance with European aviation safety regulations.

Pascal Jaussi, founder and CEO, said far from wishing to launch into the space tourism market, he wants to establish a new mode of air travel based on the company's satellite launch model that will allow spaceports on different continents to be reached in an hour.

On March 13, S3 also signed a Memorandum of Agreement (MOA) with Spaceport Malaysia where S3 could operate. S3 pays importance to Malaysia because its geographic position, which is close to the equator, makes it a perfect launch location. When completed, Spaceport Malaysia's infrastructure will include a spaceflight terminal, as well as a S3 Center of Excellence and a housing project with space-architecture concept.

Richard Joye, Head of Business Development who visited Malaysia recently, said he is pleased with the progress of the construction work due for completion this year.

Norul Ridzuan Zakaria, founder of Spaceport Malaysia, has also expressed "the opportunities for Spaceport Malaysia and Swiss Space Systems to grow mutually" because it allows technology transfer between the two countries. Besides Malaysia, discussions are at an advanced stage with other potential partner countries such as Morocco, Canada and Ecuador.

But the most significant results of the partnership of S3 with Thales Alenia Space is the future development of suborbital passenger transportation. Based on the MOA signed by the two companies, Thales Alenia will provide its know-how to design the pressurized compartment which, depending on mission requirements, will be configured as a laboratory intended to house scientific and technological experiments or to accommodate passengers.

This paves the way for the development of a specialized cabin that can accommodate space tourists in the future. Thales Alenia has more than 40 years of experience in the design, integration, testing, operation and commissioning of innovative space systems that meet the needs of commercial, government, scientific, defense and security customers from around the world. Thales Alenia is also a leading supplier to the International Space Station, and a pivotal player in space systems designed to explore the universe so its technical capability is extremely useful.

"It is important to underline that Thales Alenia continues to support the operational life of the International Space Station through the production of the 9 Pressurized Modules for the Cygnus spacecraft developed on behalf NASA with Orbital Sciences Corp., whose first launch is expected in September 2013 from Wallops launch site. At the same time we are already working on the design and construction of the MPCV vehicle (Multi-Purpose Crew Vehicle) for transporting the Orion capsule within the framework of the ESA-NASA cooperation on the project," says Luigi Maria Quaglino, senior VP, Domain Exploration and Science of Thales Alenia Space.

XCOR's Lynx: 4 flights per day

Another entity out to take the first commercial spaceline tag is XCOR Aerospace, an American private rocket engine and spaceflight development company based at the Mojave Spaceport in Mojave, California. XCOR was formed by former members of the Rotary Rocket rocket engine development team in September 1999 and is headed by Jeff Greason as CEO. XCOR's entry into the reusable launch vehicle (RLV) market is a suborbital vehicle called Lynx and will take off from a runway under rocket power.

Unlike SpaceShipOne and SpaceShipTwo, Lynx will not require a mothership. Lynx is designed for rapid turnaround, which will enable it to fly up to four times per day. Because of this



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rapid flight rate, Lynx has fewer seats than SpaceShipTwo, carrying only one pilot and one spaceflight participant on each flight. XCOR expected to roll out the first Lynx prototype and begin flight tests this year. If all goes well, it is hoped that Lynx will carry paying customers before the end of 2014.

The Lynx-family of vehicles serves three primary missions depending on their specific type including: research & scientific missions, private spaceflight, and micro satellite launch (only on the Lynx Mark III). Lynx production models (designated Lynx Mark II) are designed to be robust, multi-mission (research/scientific or private spaceflight) commercial vehicles capable of flying to 100+ km in altitude up to four times per day.

Like a typical aircraft, Lynx is a horizontal takeoff and horizontal landing vehicle, and instead of a jet or piston engine, Lynx uses its own fully reusable rocket propulsion system to depart a runway and return safely. This approach is unique compared to most other RLVs in development, such as conventional vertical rocket launches and air-launched winged rocket vehicles “dropped” at altitude from a jet powered mothership.

The Lynx aircraft-like capabilities allow high tempo operations, up to four flights per day, rapid call-up, fast turnaround between flights, low cost operations and maintenance (O&M), and a focus on safety and reliability.

Lynx has an all-composite airframe that makes it lightweight and strong. With an added thermal protection system (TPS) on the nose and leading edges it is able to handle the heat of re-entry from the edge of space. The wing area is sized for landing at moderate touchdown speeds near 90 knots. Lynx is about 9 meters (~30 feet) in length with a double-delta wing that spans about 7.5 meters (~24 feet).

Although Virgin Atlantic seems to be leading the race, XCOR is also making

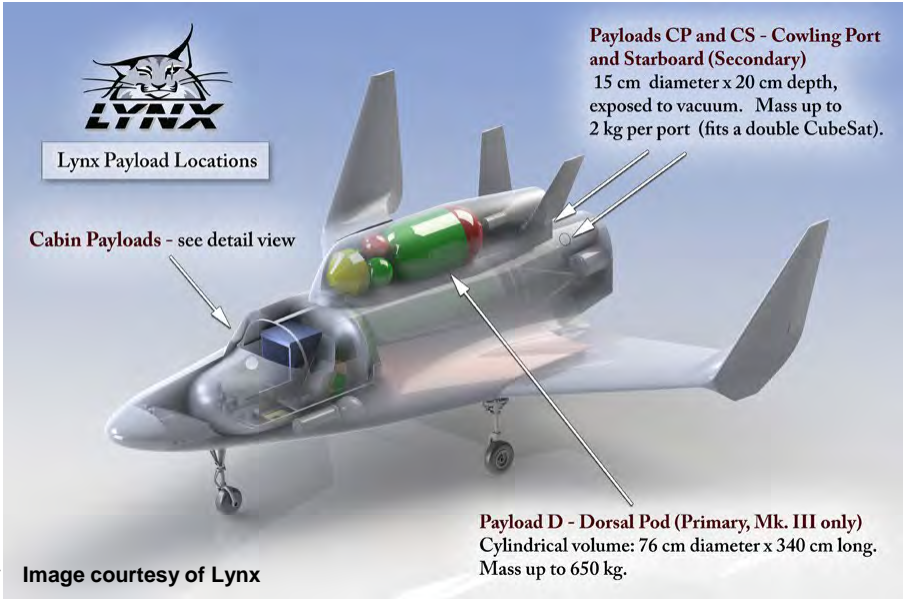


Image courtesy of Lynx

Payloads CP and CS - Cowling Port and Starboard (Secondary)
15 cm diameter x 20 cm depth, exposed to vacuum. Mass up to 2 kg per port (fits a double CubeSat).

Cabin Payloads - see detail view

Payload D - Dorsal Pod (Primary, Mk. III only)
Cylindrical volume: 76 cm diameter x 340 cm long. Mass up to 650 kg.

some headway. In March this year, the company fired of a full piston pump-powered rocket engine, which in itself is the foundation for fully reusable spacecraft that can fly multiple times per day, every day. XCOR calls it a game changing technology that has the power to fundamentally alter the way we as a society view, visit, and utilize the abundant resources around our planet and in our solar system.

The initial portion of XCOR's pump test program culminated in a 67-second engine run with the propulsion system mated to the flight weight Lynx fuselage. After the installation of the flight sized liquid oxygen tank, the next test sequence will extend the engine run duration to the full powered flight duration of the Lynx Mark I suborbital vehicle.

“Through use of our proprietary rocket propellant piston pumps we deliver both kerosene and liquid oxygen to our rocket engines and eliminate the need for heavy, high-pressure fuel and oxidizer tanks. It also enables our propulsion system to fly multiple times per day and last for tens of thousands of flights,” said XCOR Chief Executive Officer Jeff Greason. “This is one more step toward a significant reduction in per-flight cost and turnaround time, while increasing overall flight safety.”

Boeing provided additional funding to complete the XCOR test sequence and advance low-cost rocket propulsion technology, which goes to show even the big players are interested in space tourism.

Astrium's Business Jet-sized Spaceplane

Astrium, a subsidiary of the European Aeronautic Defence and Space Company (EADS) is planning a business jet-size spaceplane that will take off and land conventionally from a standard airport runway using its jet engines. The vehicle will be able to carry four passengers up to an altitude of 100 km into space, or to fulfil number of other scientific or operational suborbital missions. At an altitude of about 12 km, the rocket engine will be ignited and in only 80 seconds the craft climbs to 60 km altitude. The rocket propulsion system is then shut down as the plane's inertia carries it on to over 100 km, enabling passengers hover weightlessly for some minutes and to witness the most spectacular view of Earth's curvature. After slowing down during descent, the jet engines are restarted for a normal landing at the airfield. The entire trip will last approximately two hours.

However, there have been no recent



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report or progress on this EADS program for some time, raising the possibility of a funding problem. It is reported that EADS Astrium plans to raise public and private money for its project.

Another initiative is being undertaken by Armadillo Aerospace, which is developing a two-seat vertical takeoff and landing (VTOL) rocket called Hyperion, which will be marketed by Space Adventures. Hyperion uses a capsule similar in shape to the Gemini capsule. The vehicle will use a parachute for descent but will probably use retrorockets for final touchdown, according to remarks made by company officials in February 2012.

Armadillo Aerospace is a developer of reusable rocket powered vehicles and is also focused on VTVL (vertical takeoff, vertical landing) suborbital research and passenger flights, with an eye towards eventual paths to orbit. Founded in 2000, Armadillo Aerospace claims an unequalled experience base with over two hundred flight tests spread over two dozen different vehicles. The company

has done work for NASA and the Air Force, and flown vehicles at every X-Prize Cup event. It has also performed the very first flight under the new FAA/AST experimental permit regulatory regime, and has made over two dozen more permitted flights since then, all fully insured and observed by on-site AST personnel. Test flights of its space vehicles are continuing.

Conclusion

Analogies have been made between the development of the commercial airline industry and the spillover effect that has had across other industries and the development of commercial spaceline ventures. As we have seen from the business models of the main players in the spaceline segment, they are not limiting themselves to simply providing short space flights for the general public

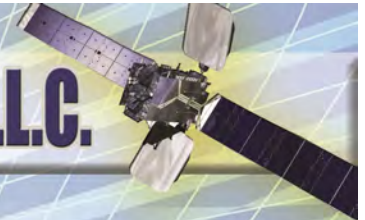
but are also banking on other revenue streams such as proving research services in space, launching smaller satellites in to Low-Earth Orbit and other ways to monetize space flights.

Virgin Galactic has already announced that it will be introducing a new vehicle specifically for launching satellites called *LauncherOne*. One innovative feature of this launcher is that it can be launched from multiple sites depending on specific clients needs. This shows that the technologies and innovations developed by the space tourism industry can be repurposed for other related industries such as the satellite business. Conversely, some of the technologies and innovations developed by the satellite industry can find a new market in spaceline industry when it takes off.



Peter I. Galace is editor for Asia Pacific of *Satellite Markets and Research*. He writes extensively on telecommunications and satellite developments in Asia for numerous publications and research firms. He can be reached at peter@satellitemarkets.com

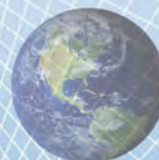
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Industry 'Stability' is the Product of Dynamic Change

by Robert Bell

Throughout the Great Recession that seized the industrialized nations in the wake of the 2007-08 financial crisis, the satellite industry has seemed to shake off the malaise that affected most businesses. Satellite operators kept putting up good quarterly numbers, with the occasional blip caused by such Acts of Politicians as the US Government sequestration. The most recent NSR report confirms that the relatively good times have kept rolling.

But what has really been going on under the hood? Those of us inside the business know that it is going through some dramatic changes in its technology and markets, and a variety of new business models are facing early market tests. Such things do not usually produce steady year-over-year growth.

A new report from World Teleport Association - *Inside the Top Operators* – may shed some light on this question. Based on a survey of the biggest and fastest-growing teleport operators of last year, *Inside the Top Operators* reveals that apparent stability is the product of dynamic forces at play.

Among many other things, the survey asked service providers whether they were able to charge more, the same or had to charge less for their services last year, compared with the prior year. We divided services into three categories. "Teleport & value-added" services include such basics as uplinking, downlinking, turnarounds and standards conversions, plus the value-added services that operators bundle with them, from channel origination to site commissioning and network management. "Satellite capacity" is the resale of capacity leased from satellite operators and "terrestrial capacity" is its ground-based equivalent.

The results revealed that teleport operators had been more successful at raising prices for satellite capacity than anything else. Thirty-seven percent of operators reported raising prices for resale of satellite capacity while another 42 percent kept prices the same. That compares with the 15% who raised prices for teleport & value-added services and 19% who raised prices for terrestrial capacity. The historic ability of fleet operators to match supply and demand so as to support high prices was apparently sustained through the recession, and supported higher pricing at resale.

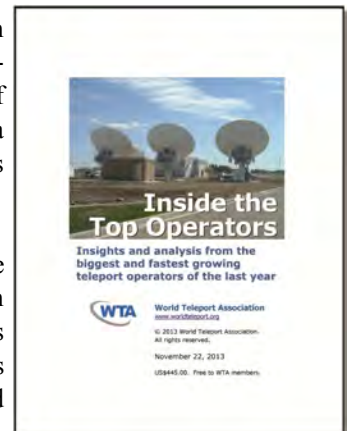
While that is good news for the companies raising their prices, it is not as good as it could be. Teleport operators typically earn much smaller margins on satellite and terres-

trial capacity resale than on provision of their own services. And an analysis of five years of this pricing data shows that the recession has indeed left its mark.

From 2008 to 2012 – the height of the Great Recession – the percentage of operators saying they had raised prices for teleport & value-added services declined three-fold, from a high of 43 percent in 2008 to only 15 percent in 2012. A similar pattern applied to satellite capacity for resale: the percentage reporting price increases dropped from 73 percent in 2008 to 37 percent in 2010, a two-fold decrease. Only terrestrial capacity resale bucked the trend: the percentage reporting price increases rose slightly from 14 percent in 2008 to 19 percent in 2012.

The good news for service providers is that, while pricing of their core services has been under continuing pressure, the volume of business measured by total revenue is up. The percentage of respondents reporting an increase in business was 75 percent in maritime, 73 percent in media & entertainment, and between 50 and 67 percent in other enterprise segments.

Teleport operators are only part of the industry – but they are a significant one, responsible for more than 27% of responder leasing revenue. And they may turn out to be a bellwether for the future of the business. As high-throughput technologies and launch advances keep trimming the cost-per-bit of space communications, price declines may become the new reality. But companies can certainly succeed in that environment, as long as lower prices are matched by rising volumes and they adjust their cost structures to keep pace. Consumer electronics has been doing it for decades – and they don't even know how to launch a rocket.



Robert Bell is Executive Director of the World Teleport Association, which represents the world's most innovative teleport operators, carriers and technology providers in 20 nations. He can be reached at: rbell@worldteleport.org

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Rain Quake

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Solar Cover

Better reflector performance

Ice Quake

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The Communications Solution for Oil and Gas

by Martin Jarrold

As examined in my previous column, the mission-critical communications solutions for the oil and gas exploration and production (E&P) environment represents only a fraction of the total CAPEX and OPEX of energy extraction and production companies, and yet a well-managed information and communications technology (ICT) network plays a disproportionately great role in reducing the costs of not only exploration, drilling, and production – helping multiple professional disciplines contribute to oil and gas exploration and recovery – but of every other area of an energy company's operations.

It is therefore imperative that where satellite networks are the vital foundation to mission-critical operations, as they almost always are in oil and gas, that those networks are reliable, robust, and secure. Ensuring this reliability, and robustness, and security, has frequently featured as a subject within the dialog of the GVF's **Oil & Gas Communications Conference Series**, and the next event in the Series is no exception.

Satellite networks, as with all wireless technologies, are subject to interference due to various causes, and these can include:

- Improper Terminal Installations
- Sub-Standard Equipment
- Unidentified Carriers
- Terrestrial Broadband Wireless Interference
- Dysfunctional Networks

GVF, as the association representing the global satellite communications

community (and sometimes working in collaboration with other entities in the industry), is actively engaged on a number of fronts in the development and deployment of programs of action to respond to, and resolve, these (and other) problems of interference.

In this present context, the 2013 Kuala Lumpur conference program will examine how GVF has successfully moved



For a communications solution to work in the oil and gas industry, it is imperative to have a good installation, training and certification program.

to challenge this issue on a global basis, beginning more than 10 years ago when the satellite industry identified GVF as *the* organization best qualified to develop a strategy for action to tackle the increasing problem of RF interference, and subsequently working with SatProf – a team of expert satellite earth station engineers – on the practical delivery of a training strategy that has, over the years, more than demonstrated its effectiveness – an effectiveness confirmed

by the award-winning status of this key industry resource.

A long-experienced satellite earth station engineer, Chris Sivertz, Managing Director of S2C2 SATCOM Thailand & Chief of GVF Training in South East Asia will, as part of the event schedule, provide a thorough analysis of the GVF/SatProf strategy delivery, which begins from this fundamental, multi-part, premise:

Terminals Deployed. Over 100,000 Ku-band VSATs are installed every year. Any one terminal can cause serious interference.

Hardware Costs. As volumes grow, hardware costs are now well below \$1000 per terminal.

Satellite Sensitivity. Spot beams permit smaller, cheaper terminals.

Installer Fees. With hardware costs below \$1000 per terminal, the affordable budget for installation services is very low!

The Perfect Storm. Small dishes (wide beams) x Cheaper labor x High volumes = INTERFERENCE INCIDENTS.

Chris Sivertz is one of a global team of GVF training certification examiners who work in conducting the HoST (Hands-on Skills Test) which is the final phase of the installation trainee certification process following the work that trainees must do online to achieve their status as a Fixed/VSAT Satellite Professional (with optional terminal technology specializations), or Marine Operator/Marine Professional. Being



The Journey Has Begun

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conducted online, students undertake these different courses in their own respective locales. The courses are self-paced, available 24 hours-a-day, are backed-up with dedicated student support staff. Use of the online training facility requires only a moderate-speed Internet connection and browser with Flash player, the training simulator skills assessments connect to LMS student scores, and there is a multi-language instant-switch capability.

In the oil and gas and general offshore vertical market environments alone, GVF training is used by Harris CapRock, RigNet, Stallion Oilfield Services, Orange Business Services, and Inmarsat, to name just a few, and in other sectors the list of training portfolio users is impressively comprehensive: **(Satellite Operators)** Intelsat, SES, Eutelsat, Arabsat, StarOne, Hispasat; **(International Organizations)** UNICEF, UNHCR, WFP, ICRC, International Rescue Committee, NetHope; **(Government Agencies)** United States FAA, and FBI, to list just a few.

In his presentation, Chris will cover not only training resources, but also look into the whole “spectrum” of *Interference Challenges & Challenging Interference*, which includes: Sub-Standard Equipment (Product Quality Assurance, Type Approvals); Terrestrial Broadband Wireless Interference (Spectrum Defense Initiative); and, Dysfunctional Networks (Network Validation).

For 2013, the GVF-EMP Conference Partnership is using a new venue, the InterContinental Hotel in central Kuala Lumpur, Malaysia. The 6th Annual **Oil & Gas Communications South East Asia 2013: Evolving the ‘Big Data’ Digital Oilfield for Offshore & Deep Water** conference – which is the 19th event in GVF-EMP’s overall global series – will take place on 19th & 20th November.

Over the remainder of the two days, the conference program will explore a wide range of topics that are illustrative of

“...It is imperative that where satellite networks are the vital foundation to mission-critical operations, as they almost always are in oil and gas, that those networks are reliable, robust, and secure. ...”

some of the latest developments in oil and gas industry communications requirements, and in the technological and service delivery capabilities of the world’s leading satellite operators and networking solution providers, including:

- Cutting-Edge Communications for Digital Oil & Gas: High Throughput Satellite;
- Networking Solution Innovations for Cloud-over-Satellite in E&P;
- The 21st Century Asian Oilfield: Maximising Growth through E&P ICT.

These particular sessions will feature interactive panel sessions where speakers will engage in detailed discussion of each topic with the assembled audience of delegates from Malaysia, S.E. Asia, and around the world. Other topics to be included are listed on the event website at www.uk-emp.co.uk/emp-home/current-events/oil-gas-comms-se-asia-2013/.

Companies scheduled to contribute to the program dialog include, as at 28th October (in alphabetical order): **Baker Hughes; C-COM Satellite Systems; Cobham; Echelon Satnet; Euroconsult; Hermes Datacomms; Hughes; iDirect Asia; Intelsat; Marlink; ND Satcom; RigNet; S2C2 Satcom; Spacenet Malaysia; SpeedCast; Teledyne Technologies; and, ViaSat.**

Confirmed speakers include (as at the same date and in company name alphabetical order): **Jonathan Lee**, Director of Sales, Asia-Pacific, C-COM Satellite Systems | **Clement Larroque**, Managing Director, Echelon SatNet |

Stephane Chenard, Senior Analyst, Euroconsult | **Mohd Faizal Zainal Amri**, General Manager, Hermes Datacomms – Malaysia | **Vaibhav Magow**, Regional Director, Asia-Pacific, Hughes | **Ayyengar Venkata Desikan Ranganathan**, Director of Systems Engineering, iDirect Asia | **Terry Bleakley**, Regional Vice President, Asia Pacific Sales, Intelsat | **Rick Abbasi**, Senior Product Marketing Director, Network Services & Regional CSE Director Asia Pacific, Intelsat | **Charlie Ransford**, Sales Director, South East Asia, Marlink | **Alexander Jeuck**, Vice President, Sales, Asia-Pacific, ND SatCom | **Rob George**, General Manager, Asia Pacific, RigNet | **Christopher Sivertz**, Managing Director, S2C2 SATCOM Thailand & Chief, GVF Training South East Asia | **Stephane Palomba**, Regional Vice President, Asia, Spacenet Malaysia | **Kevin Blyth**, Teledyne Technologies | **Roy Drakos**, Director, International Business Development, ViaSat | **Martin Jarrold**, Chief, International Programme Development, GVF.

For more information please contact me at martin.jarrold@gvf.org, or at **EMP**, Paul Stahl at paul.stahl@uk-emp.co.uk.



Martin Jarrold is Director of International Programs of the GVF. He can be reached at



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SSPI's 2013 Promise and Mentor Awards

The 2013 Promise and Mentor Awards will be presented at the eighth annual **Future Leaders Dinner** at The Penn Club in Manhattan on Tuesday, November 12, on the evening before the opening of the SATCON and Content & Communications World (CCW) events. The proceeds of the dinner go to fund SSPI's educational, professional development and industry growth initiatives.

"For the first time, all three winners of our 2013 Promise Awards are women," said executive director Robert Bell. "That's a remarkable milestone in this traditionally male-dominated industry – one that our Mentor of the Year has done his share to help bring about – and is a sign of the expanding career opportunities being created by innovation in manufacturing, launch and services."

SSPI's Promise Awards honor executives ages 35 and under for outstanding achievement in the early stages of their careers, and recognize their potential to play a leadership role in the industry. During SATCON, the three Promise Award winners will join CEOs of the satellite industry for a keynote panel that will explore the most profound trends shaping technology, markets and business models in coming decades and ask what a drastically different industry might look like.

2013 Promise Award Winners

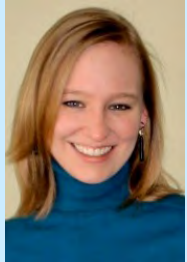


Sunali Chokshi

Section Supervisor, Space Systems/Loral

Helping a leading satellite manufacturer do more for its customer

During her seven years at Space Systems/Loral, Sunali has been on the fast track: working in a series of positions of increasing responsibility as a Test Engineer, a Project Responsible Engineer, a Unit Manager and is now a Section Manager. Her most recent achievement was leading an initiative to increase the test capacity of the SSL Nearfield Range (NFR). Her project team identified areas of improvement, secured funding, and worked through suppliers, facilities maintenance, and other organizations within SS/L to complete these improvements. The outcome of the project improved both test capacity and measurement quality, permanently expanding SS/L's production capacity at a time when manufacturers are being challenged to reduce the cost and time required to design and build a satellite.



Emma Hinds

Technology Analyst, The Tauri Group

Improving the US Government's understanding of a complex business

Emma is a serious space and satellite policy maven, with stints at the Space Policy Institute, Office of Management & Budget, NASA and Booz Allen Hamilton already behind her. At The Tauri Group, she supports the Office of the Chief Technologist at NASA, the FAA's Office of Commercial Space Transportation, and the Satellite Industry Association (SIA) as well as other clients. She has provided research, strategic planning, technology roadmaps and recommendations shaping US government technology policies, regulations and investments. In 2013, she was the research lead for SIA's State of the Satellite Industry report, a project she helped her company win from a competitor, and helped SIA validate 16 years of data to produce and lead briefings for a report widely referenced by business and government leaders.



Sarah Warren Rose

Lead Engineer, Mechtronics/Guidance Navigation, and Control, Interorbital Systems

Delivering leading-edge innovation in access to orbit

A mechanical engineer by training, Sara is a relentless innovator in both the physical and digital worlds, who holds numerous in the field of Rotary Engine development. Her work for InterOrbital Systems – a company founded in 1996 to create a unique modular orbital launch system – has

focused on IT and robots. She has developed a new generation of "genetically evolving algorithms" to provide guidance and control for InterOrbital's new sounding rockets and orbital launch system, which are undergoing flight testing on a custom quad-copter that she built from scratch. She is also a well-regarded academic researcher who teaches course at UCLA in mechanical engineering and robotics.

2013 Mentor of the Year



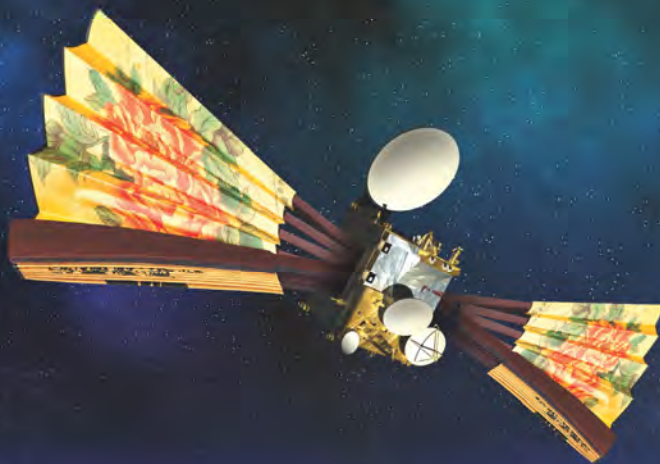
Clayton Mowry
President, Arianespace, Inc.

Making mentorship a priority in successful leadership

In a career bridging government, the nonprofit sector and the launch business, Clay Mowry has developed a reputation as a trusted and capable leader as well as an approachable and supportive mentor for the next generation. In previous positions and his current one as President of Arianespace, Inc., Clay has made it a personal priority to hire and mentor interns from a wide variety of backgrounds. His participation in their careers has not ended with their internships, and many executives working today in the industry cite his personal attention, advice and willingness to make introductions as contributors to their own success. Clay also goes out of his way to mentor young professionals in the industry who have no affiliation with Arianespace through one-on-one informal mentorship and through active participation and leadership in such organizations as SSPI, SIA, the Space Generation Advisory Council, the Washington Space Business Roundtable and the Future Space Leaders Foundation, which he founded. In balancing career success with a commitment to nurture new talent, Clay has set an example for the entire industry to follow.

For more information on attending the Future Leaders Dinner on the eve of SATCON 2013, contact Tamara Bond at tbond@sspi.org or go to: http://www.sspi.org/events/event_details.asp?id=359716 

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Pre-launch Ku-band on AMOS-4 is now available.

AMOS
by Spacecom



■ A guide to key products and services to be showcased at SATCON 2013 in New York City from November 13-14 and MILCOM 2013 in San Diego, California from November 18-20.

Advantech Wireless
@ SATCON booth no. 531
@MILCOM booth no. 1041
www.advantechwireless.com

Advantech Wireless designs, manufactures and deploys networking for broadband connectivity, broadcast solutions, video contribution and distribution, mobile 2G, 3G, LTE backhaul and DTH & DTT video distribution, using satellite and terrestrial wireless communications. Our products include Next Generation VSAT Hubs and Terminals, World-leading GaN technology SSPAs, BUCs, Frequency Converters, High Speed Satellite Modems, Fixed and Deployable Antennas, Antenna Controllers, Terrestrial Microwave Radios, Routers and Ruggedized Products.

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@ SATCON booth no. 615
www.absatellite.net

Asia Broadcast Satellite is one of the fastest growing premium satellite operators in the world. ABS operates 4 satel-

lites (ABS-1, ABS-1A, ABS-3 and ABS-7) from 3 premium locations at 3°W, 75°E and 116° E. The fifth satellite, ABS-2 is scheduled to launch in 2H 2013, will be fitted with up to 89 active C, Ku and Ka-band transponders. ABS has also ordered two new Boeing 702SP satellites planned for launch in 2015 with the options to add more satellites over the next 2-3 years to ABS' growing satellite fleet.



ABS offers a complete range of tailored solutions including broadcasting, data and telecommunication services to enterprises and government organizations. Through its teleports and alliances with world-class partners including Bahrain and Tel Aviv, ABS offers SCPC, MCPC, Payout, Encryption, Turn-around, Uplink, Co-location, IP backbone and VSAT services. ABS also provides full satellite operations, payload and client monitoring, tracking, telemetry and control services, and a full Network Operations Center (NOC) managed 24/7 by highly trained professionals.

ATCi
@SATCON booth no. 437
www.atci.com



ATCi is a custom communications solutions provider specializing in commercial satellite communications systems and services including: the Simul-sat multibeam, parabolic antennas, complete uplink systems/services, teleports, cable television headend and plant components, test equipment and input matrix switches, as well as fiber optics components for corporate, broadcast, cable television, government and education.

AvL Technologies
@SATCON booth no. 501
www.avltech.com



AvL Technologies' booth at SATCON 2013 will focus attention on the recently revised 1.2m and 2.4m manual FlyAway antennas, which are both airline checkable, and the new 60cm manual FlyAway antenna, which packs into a carry-on backpack.

AvL will also show EutelSat, Avanti, Hughes and ViaSat type-approved Ka-band antennas used as the "antenna of choice" on broadcast and broadband systems throughout the world. Expo attendees can get an up-close view of the Eutel-

Sat type-approved 1.0m vehicle-mount antenna, the 1.2M ViaSat type-approved mobile VSAT, and the original 90x66 cm carry-on antenna that packs into various small cases.



AVL's new 1.2m Ku-Band Mobile VSAT Antenna

Debuting at SATCON, AVL's new 1.2m Ku-Band Low-Stow Mobile VSAT Vehicle-Mount

Antenna features a new proprietary structural core-free carbon fiber reflector, zero-backlash AvL Cable Drive, and embedded auto-acquisition AvL AAQ controller. This lightweight, robust antenna is a Hughes HX-certified antenna. AVL also offers the only Hughes type-certified 1.0M and 1.2M Ka-band antennas for vehicle-mount and FlyAway configurations with both solid and segmented reflectors.

AVL's Ka-band broadband antenna family is noted for versatile configurations, high reliability and cost-effective "go-to" solutions for mobile accessibility with High Throughput Satellites. AVL antennas are the industry benchmark of excellence for mobile broadband Internet access, Satellite News Gathering, Disaster Relief, Oil & Gas Data Backhaul, and Defense & Homeland Security solutions.

C-COM Satellite Systems Inc.
@SATCON booth no. 619 (and outdoor truck)
www.c-comsat.com

C-COM Satellite Systems Inc. is a leader in the development and deployment of commercial grade mobile satellite-based technology for the delivery of two-way high-speed Internet, VoIP and Video services into vehicles. Founded in 1997, C-COM has developed a unique proprietary auto-deploying (iNetVu[®]) antenna that allows the delivery of high-speed satellite based Internet services into vehicles while stationary virtually anywhere where one can drive. The iNetVu[®] mobile antennas have also been adapted to be airline checkable and easily transportable.

The company's satellite-based products and services deliver high-quality, cost-effective and reliable solutions for mobile applications throughout the world. Our transportable VSAT, vehicle mounted antennas provide 2-way high-speed Internet connectivity to a wide variety of users including: Military; Police; Fire; Homeland Security; Disaster Management; Oil & Gas Exploration; Mobile Medical Services; Emergency Services; SNG



(Satellite News Gathering); Mining; Construction; Bookmobiles; Mobile Offices; Recreation Vehicles...and many more.

Comtech Xicom Technology
@MILCOM booth no. 1510
www.xicomtech.com



Comtech Xicom Technology, Inc., located in the heart of Silicon Valley, is the world's leading SATCOM high-power amplifier supplier, offering the broadest product line in the industry. For more than 20 years, our focus on customers, innovation and quality has created a tremendous breadth of products and created a company with a reputation for excellence.

At MILCOM'13, Xicom will be showcasing its new generation of 50-Watt X-Band and 40-Watt Ku-Band solid-state high power amplifiers (SSPAs). High-power solid-state Block Upconverter



(BUC) Model XTS-50X-B1 is a DC-Powered X-Band Amplifier, offering 47 dBm of Output Power and 45 dBm Linear Power. Model XTS-40KHE-B1 is a DC-Powered Ku-Band Amplifier, offering 47 dBm of Output Power and 43 dBm Linear Power.

Both BUCs are packaged in the same lightweight 10.0-pound, 11.2-in. x 4.4-in. x 5.4-in. configuration. The compact outdoor unit (ODU) is construction specifically for outdoor use allowing for direct mount to the antenna. This eliminates long waveguide runs and associated RF losses. Both lightweight models are designed for rugged, mobile environments. With the same package configurations, changing from X-band to Ku-band is a simple process when required.

Model XTS-40KHE-B1 is one of the new "Green Powered By Xicom Technology" designed amplifiers focusing on user cost savings including lower power consumption, reduced fuel and charging requirements.

EM Solutions
@MILCOM booth no. 1411
www.emsolutions.com.au



EM Solutions is a world-leading company recognized for manufacturing technologically superior microwave modules and systems.

tems for next generation broadband communications at frequencies from L-band to Ka-band (1 to 40 GHz). 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 more than 200 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 Defense accredited supplier and is ISO-9001 certified.

Its most sophisticated and world-leading systems, such as its Ka-band satellite on the move terminal, or 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.

GlobeCast
@SATCON booth no. 725
www.globecast.com



At SATCON 2013, **GlobeCast** will present a new look and positioning for the broadcast service provider, underlining the company's shift toward working with its broadcast clients on tailored solutions based on each broadcaster's strategy. GlobeCast will also be touting its latest contracts, as well as new developments in the over-the-top (OTT) space.

With regard to 4K, GlobeCast has also been involved in the development of standards for HEVC compression and the UHDTV experience through its membership in the 4Ever Consortium.

In one place, a visitor to GlobeCast's stand will have the unique opportunity to explore and discuss the merits of satellite, fiber, OTT distribution, media management, and content regionalisation with a company that can provide the simplicity, flexibility, and knowledge to deliver a solution aligned with each broadcaster's specific strategy.

GlobecommSystems
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mize profitability and maintain your identity with Access Video. Access Video is a complete video transmission solution supporting live broadcast-quality video contribution and distribution as well as file distribution and videoconferencing.



Globecomm provides satellite and terrestrial transmission, turnaround, routing and switching and termination to the customer network. Our next-generation networks provide high throughput and uptime. Access Video increases your margin while lowering your capital/operating expenses. Some applications include; satellite uplink, channel origination & delivery, content aggregation & distribution, uplink diversity, content scheduling, storage & playout services, U.S. cable distribution and European & middle east direct to home distribution. Certain benefits customers experience include easy fiber access, flexible solutions and 24x7 network monitoring.

In addition to services, Globecomm provides end-to-end design and integration of communications systems and networks. Customers can select from our fixed and transportable lines of cost-effective earth stations or ask us to custom-design, uplink centers, broadcast centers or next-generation networks to meet their needs.

Hispasat/ Hispamar Satélites
@SATCON booth no. 631
www.hispasat.com



Covering all of the Americas, **Hispamar Satélites** – a **Hispasat Group** company – offers an extensive range of satellite communication services through the Amazonas 1 and Amazonas 2 satellites: IP, Broadcast, Corporate, Telecom, Government, Distance Learning, Telemedicine and Digital Signage.

Amazonas 1 and Amazonas 2 are two of the biggest and most powerful satellites serving the American Continent and operate collocated at 61° W offering both C- and Ku-band capacity, with immediate availability of high quality Ku-band capacity for North America.

Its latest addition to its fleet is the Amazonas-3 satellite which includes nine Ka-Band spot beams—the first Ka-Band capacity made available for the Latin American market.

Narda Test Solutions

@MILCOM L3 booth no. 1131

www.agfranz.com/prod-narda.html

At MILCOM two field-proven test equipment analyzers from Narda Test Solutions (an L-3 Company) will be presented.

The portable, low-weight **IDA Interference and Direction Analyzer** is a highly sensitive signal analyzer, with an extremely fast sweep time at 12 GHz/sec and a real-time bandwidth of up to 32 MHz for intercepting short term signals. The unique smartDF direction finding mode manages triangulation results and automatically calculates emitter positions. These features are ideally suited for the warfighter to quickly localize emergency transmitters and jammer locations, as well as support close range reconnaissance and signal monitoring for border patrols.

The **Narda Remote Spectrum Analyzer NRA** is a family of 19" 1RU rack mountable high speed test equipment that is easily integrated and remotely controlled in measurement environments. The fan-less design enables silent, power-efficient continuous operation. The wide bandwidth (9kHz to 6 GHz) of the NRA-6000 enables the warfighter to simultaneously monitor radio, cellular and WiMAX signals.



The NRA-3000 is capable to analyze signals from 9kHz to 3GHz for line-up and troubleshooting of satellite transponders. It is also available with an integrated LNB control for compact military satellite communication system requirements.

The IDA and the NRA are available in North America through A.G.Franz, LLC www.agfranz.com

Newtec

@SATCON booth no. 410

@MILCOM booth no. 820

www.newtec.eu

Newtec will be highlighting the most efficient broadcast equipment for video contribution and distribution at SATCON 2013:



- MDM6100 Broadcast Satellite Modem
- M6100 Broadcast Satellite Modulator

Features include:

- Seamless migration to Multistream and S2 Extensions

- Re-use of existing infrastructure
- Reduction of satellite interference through DVB CID
- Ready for HEVC and UHD TV

San Francisco International Gateway

@SATCON booth no. 436

www.sfig-teleport.com

San Francisco International Gateway (SFIG) is a full-service teleport located at Richmond, California, directly across the San Francisco Bay from the Golden Gate Bridge and about 20 minutes from downtown San Francisco.



The facility is a complex composed of modular buildings and technical equipment shelters adjacent to satellite earth station antennas on a 2 acre parcel of land. The SFIG technical facility consists of 19 satellite earth station antennas, of various sizes from 13.0 meters to 2.4 meters in diameter to serve both C and Ku band satellites.

Walton De-Ice

@SATCON booth no. 317

www.de-ice.com



Walton De-Ice designs and manufactures the broadest line of equipment available for preventing the accumulation of snow and/or ice on satellite earth station antennas.

Walton De-ice offers several options for heating including, gas heaters with their economical operation advantages or the low maintenance Stainless Steel Electric Heaters.

At SATCON 2013 Walton De-ice will be showcasing its new Rain Quake system specifically designed to reduce rain fade on Ka-Band antennas. During heavy rain conditions, Walton's Rain Quake can reduce rain fade by up to 20 times more.



At SATCON 2013, attend the reception for the 2nd Annual Vision Awards on November 13 from 6:00-7:00 PM at Conference Hall A1.

To confirm your attendance send an e-mail to virgil@satellitemarkets.com

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Plans are already underway to showcase the technical innovations and creative talents of military, academic, and industry leaders at MILCOM 2013. Receive continuing education units for attending technical sessions and experience an in-depth technical program with panel discussions, tutorials, and industry exhibits at the state-of-the-art San Diego Convention Center. For more information, including a technical program outline and call for papers, visit www.milcom.org.



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Liberty Global Sells Chellomedia to AMC Networks for US\$1 Billion

Denver, Colorado, Oct. 28, 2013 — In an effort to balance its books after its spending spree on European cable assets, **Liberty Global plc** announced the sale of all its international content division Chellomedia to AMC Networks Inc. for US\$1.035 billion.

The assets being sold include Chello Multicanal, Chello Central Europe, Chello Zone, Chello Latin America and Chello DMC. In addition, Liberty said Chellomedia's stakes in its joint ventures with CBS International, A+E Networks, Zon Optimus and certain other partners will also part of the divestment. But Liberty Global will retain its Dutch premium channel business, which consists of its Film1 and Sport1 channels.

Chellomedia is one of the largest international channel groups with distribution to more than 390 million households in 138 countries. But reports say Liberty has been looking for a buyer for Chellomedia since May 2013 when it valued the content division in the region of US\$ 800 million to US\$ 1 billion.

Based in New York, AMC has been producing programming and movie content for more than 30 years. It owns and operates several of the most popular and award-winning brands in cable television. The company also operates AMC/

Sundance Channel Global, an international programming business, and AMC Networks Broadcasting & Technology, a full-service network programming origination and distribution company.

Liberty Global, one of the largest international cable company with operations in 14 countries, said the consolidated assets to be divested generated about US\$451 million (€350 million) of revenue during the last twelve-months.

Mike Fries, President and CEO of Liberty Global, said the transaction is attractive from both a valuation and liquidity perspective. "It also simplifies our business and allows us to focus on our core markets and more strategic programming opportunities," he added.

"This acquisition allows us to secure a large, global platform on which to distribute our increasingly successful original programming through a collection of strong, well-established and well-managed assets worldwide," said Josh Sapan, President and CEO of AMC Networks. "Together, we can grow these assets and make them even more popular and valuable around the world."

The transaction is expected to close in the first quarter of 2014 and is subject to limited closing conditions. The transaction, however, is not conditioned on any regulatory approvals.



LIBERTY GLOBAL



Pace Acquires Aurora Networks for US\$ 310 Mil.

Saltaire, UK, Oct. 23, 2013 — Set-top boxes developer Pace plc is acquiring optical transport and access network solutions provider Aurora Networks for US\$ 310 million in cash.

For the year ended 31 March 2013, Aurora generated revenues of US\$ 217 million and EBITDA of US\$ 30 million. With the purchase, Pace is hopeful it will be able to improve its chances of reaching profitability target of 9 percent return on sales in 2015.

The purchase also positions Pace to support operators' and consumers' constant demand for cost effective delivery

of ever increasing bandwidth, widening its business beyond that of customer premises equipment.

In addition to the US\$ 310 million cash, Pace will also pay another US\$ 13 million, payable on closing the deal, which will come from tax benefits to be recovered over the three years after the acquisition. The acquisition is, however, conditional upon the satisfaction of necessary regulatory and other conditions.

Pace Chairman Allan Leighton said the acquisition of Aurora represents an important evolution in this process and enhances our strategy to grow a broader



platform across Hardware, Software and Services.

"Acquiring Aurora will allow Pace to

expand beyond our core business and build deeper and more embedded relationships with our customers, which the company believes will strengthen Pace's position as a market leading solutions provider for the PayTV and broadband industries."

Mike Pulli, CEO of Pace, acknowledged Aurora's pivotal role in optical transport and access network solutions and its strong and seasoned team of talented and innovative cable industry professionals, adding that the transaction will further strengthen their relationships with customers.

"The combined business will have strong financials and a broad market leading portfolio that will provide excellent opportunities for our customers, employees and shareholders alike," he said.

Ross Video Acquires Mobile Content Providers

Iroquois, Ontario, Canada, October 8, 2013 — Canadian video production technology company, **Ross Video**, has acquired MCP – Mobile Content Providers, a premium full service mobile sports production packager based in South Florida, USA.

Ross said it plans to transform MCP into a national mobile production company to be called Ross MCP.

MCP has served many major Sports Networks, Universities and International organizations, and has successfully delivered premium content at affordable prices. In addition to providing crew and equipment, MCP also takes on producer responsibilities providing a full service solution.

"There is big demand in the market for high quality, network level productions that are at a much lower price point than currently available," said Mitch Rubenstein, founder of MCP and now President of Ross MCP. "National sports networks don't want to compromise on the look and feel of their productions of college and professional sports. We have been successful in providing full-featured productions with network level graphics."

Ross MCP plans to offer clients new technology normally only available in the largest budget productions, such as Remote Social Media Content Moderation tools.

"The North American truck market today primarily consists of national companies that simply rent large trucks

and small regional owner operators. We saw a need for a national, high quality mobile content provider that is better aligned with the need to produce economical Internet and broadcast con-

tegment," noted David Ross, CEO of Ross Video. "MCP has an innovative model that we will be expanding on. Mitch Rubenstein's 20 years in sports production and experience as a sports producer is a major asset to our go forward plans," he said.

Ross is also expected to offer an alternative to contemporary truck design. Rather than using overly expensive technologies that lack smooth integration, the company said its Ross product workflows will be designed to work together. These new technologies will be made available to other truck companies as well, Ross said.



and small regional owner operators. We saw a need for a national, high quality mobile content provider that is better aligned with the need to produce economical Internet and broadcast con-

For all the latest developments and trends in the global satellite industry, go to www.satellitemarkets.com

Media Companies Ask US Supreme Court to Declare Aereo Service Illegal

by Peter Galace

The biggest U.S. media companies have asked the U.S. Supreme Court to rule Aereo Inc., which provides broadcast signals to online viewers, as an illegal operation. Petitioners to the suit include — Walt Disney Co., 21st Century Fox Inc., Comcast Corp. (CMCSA)'s NBCUniversal, CBS Corp. (CBS), Univision Communications Inc., the Public Broadcasting Service and station WNET, and Tribune Co. owned New York station WPIX — filed the petition on October 18 with the court after litigation in lower courts failed to stop Aereo.

According to the petitioners, Aereo's retransmission service over the Internet "enables its subscribers to watch broadcast television programs over the internet for a monthly fee" as an obvious copyright violation because Aereo simply captures over-the-air broadcast signals without authorization and then profits from retransmitting those broadcasts to its subscribers.

They said Aereo is able to offer access to their "live TV" programming more cheaply than its competitors in part because, unlike cable and satellite services or licensed Internet video on-demand services, Aereo has not paid anything or obtained any kind of permission to offer this programming.

Analysts see Aereo to be a threat to the US\$3 billion in fees that broadcast station owners will receive this year from pay-TV systems to provide signals to subscribers. If allowed, pay-TV systems could offer their own work-around to avoid paying so-called retransmis-

sion fees. Bloomberg Industries estimates that broadcast stations will collect \$3.02 billion in retransmission fees from pay-TV systems this year, doubling to \$6.05 billion by 2018.

Fox spokesman Dan Berger has told reporters that "Aereo is stealing our broadcast signal."

Earlier this year, Chase Carey, president and chief operating officer of New York-based Fox, has even threatened

"Hearst has not demonstrated a sufficient likelihood of success on the merits nor the requisite irreparable harm and therefore it is not entitled to that 'extraordinary and drastic remedy,'" Gordon said.

In a string of earlier setbacks for media companies, the Southern District of New York on July 11, 2013, and the Second Circuit Court of Appeals on April 1, 2013 and July 16, 2013, also denied their appeal to stop Aero. The judges have permitted Aereo to operate during legal challenges.

Aereo CEO and founder Chet Kanojia said last week their victory belongs to the consumer, adding "that there is no reason that consumers should be limited to 1950s technology to access over-the-air broadcast television."

Using Aereo, a consumer can simply and easily use an individual remote antenna and cloud DVR via the Internet to record and watch-over-the air programs.



Image courtesy of aereo

that the company would convert its Fox TV network into a cable channel and cease broadcasting if U.S. courts permit Aereo to continue taking its signals without compensation. Reports say Leslie Moonves, CBS's chief executive officer, and Haim Saban, chairman of Univision, have said they would follow Fox off the air if necessary.

The petition in the Supreme Court was prompted by the broadcasters and media companies' setback on October 10 when federal judge Nathaniel M. Gordon of Massachusetts ruled in favor of Aereo and denied a motion for it to stop operating.

In the meantime, Aero has announced an Aereo Android app will available for download in the Google Play store on October 22. With the new app, Android devices can also be used to connect Roku to an Aereo account.

Kanojia said "...we believe consumers should have more choice and control over how they watch television and a big part of that is expanding the universe of devices that they can use to access Aereo's remote antenna and DVR technology. This year, our focus has been on growing our footprint across the country."

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PSSI Global Services Hires Matt Scalici as GM

Las Vegas, Nev., Oct. 25, 2013 — **Production & Satellite Services, Inc. (PSSI)**, a satellite transmission and event management company, has hired **Matt Scalici** as its new general manager.

Matt has 33 years of extensive experience working in satellite and cable television. His sharp business and technical management skills have already proven valuable to PSSI—he's acted as a consultant over the past year. PSSI is confident that Matt's insight and knowledge will be beneficial as the company further expands their global footprint.



Matt Scalici

Matt has a long history with this industry, and has been a ground-floor member of several significant start-up companies, including EWTN, The Global Catholic Network and the Golf Channel. He has built and managed production studios, mobile production units, teleports, mobile satellites and broadcast facilities, including the first digital network facility in the U.S. in 1994.

During his tenure as VP of Network Operations at The Golf Channel, he oversaw the launch of one of the most profitable channels ever, and developed digital sideband carriers for international distribution. Matt oversaw nearly 160 production days per year, making him one of the most frequent users of mobile production and satellite uplink trucks in the country at the time.

Marcopoto Honored with Lifetime Achievement at CASBAA 2013

Hong Kong, Oct. 25, 2013 – CASBAA, the association for digital multichannel TV, content, platforms, advertising and video delivery across geo-

graphic markets throughout the Asia-Pacific has honored **Steve Marcopoto** with its Lifetime Achievement Award and Chairman's Award. Marcopoto, the outgoing President and Managing Director of **Turner International Asia Pacific Limited**, was conferred the award at the culmination of the 20th CASBAA Convention on Friday.

“On behalf of CASBAA and the industry as a whole, I would like to express our heartfelt gratitude for the years of service Steve Marcopoto has given to the industry and the Association,” said Marcel Fenez, CASBAA Chairman.

“As a pioneer of the pay-TV industry in Asia and a long standing member of the Board of Directors, Marcopoto has been an important voice in establishing the agenda and direction of CASBAA.”

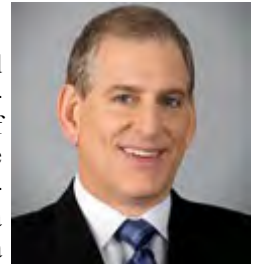
Since taking the helm of Turner Broadcasting Systems in 1998, Marcopoto had overseen the growth of Turner's business in Asia Pacific from their first linear, pan-regional TV channel to a multimedia, multi-language, multi-territory enterprise creating award-winning channels and brands.

Under his leadership Turner has grown from broadcasting two networks in the region to 37 channels today in 11 languages and in 40 countries, along with a vast array of digital and off-channel commercial activities. These channels include CNN, Cartoon Network, Boomerang, Pogo, TCM Turner Classic Movies, Tabi Channel, MondoTV, WB, QTV and truTV. In an increasingly competitive environment, Marcopoto has maintained Turner's leadership position in news and kids channels, forged entry into new territories and built great partnerships.

An advisory board member of The Media Alliance, an industry-wide initiative focused on building public awareness and behavior change on global social development issues; previously he has served as Chairman of the Society of Publishers in Asia and as Chairman of the American Chamber of Commerce in

Hong Kong.

He has mentored countless executives, many of whom have gone on to senior roles in Asia and abroad. As a passionate advocate of the CAS-



Steve Marcopoto

BAA Convention, he has been a dedicated participant, moderator and interviewer.

Marcopoto has also helped pushed the agenda for advertising on multichannel TV in the region and, most recently, was the board member responsible for CASBAA's Regulatory and Anti-Piracy Committee.

Richard Minter Joins Signalhorn as COO, Anver Anderson Named Chief Sales Officer

Backnang, Germany, Oct. 22, 2013 – **Richard Minter** has been named Chief Operating Officer of **Signalhorn**. Anver Anderson has also been named Chief Sales Officer.

As COO, Minter will oversee the company's engineering and operations in the global provision of network services and communications solutions to the company's enterprise, energy, government & NGO, and maritime customers.

Minter brings more than 25 years of experience in executive management, satellite network engineering, and program management to his Signalhorn role. He also has extensive experience as an independent consultant to such organizations as Penn State University's Applied Research Labs, DRS Technologies, and various U.S. government agencies.

Most recently, Minter held the position of chief operating officer for SES Government Solutions, the unit of SES that serves the communications needs of the U.S. government. During his 10 years at



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Hidetoshi Saito, Sales and Marketing Director at Yamaha Music Gulf FZE

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SES, he held other executive positions including chief scientist; senior vice president of engineering and intelligence programs; corporate vice president; vice president of managed services engineering; and vice president of teleport operations.

Minter holds a BS in electrical engineering from the University of Georgia and an MBA from Averett University. He also earned a graduate certificate in international business management from Pepperdine University and is pursuing a master's degree in education.

Anderson has more than 20 years of experience leading international, multi-cultural, multi-disciplined business teams where staff members are based in diverse global locations. For the past 10 years, Anderson has led a UK-based consultancy specializing in business development, strategic market planning, project management and product evaluation and development.

As part of his consultancy, Anderson served as vice president of Asian operations for Newtec, a satellite technology manufacturer. He managed Newtec's Singapore and Beijing offices as well as remote business development operations in Sydney,



Anver Anderson

Australia. His leadership led to contracts with broadcasters, telecom operators and government agencies in Indonesia, China, Malaysia, Singapore and Australia. He also led major consulting projects for Vislink Communications and ITN.

Prior to forming his consultancy, Anderson held a number of corporate executive positions, including sales & marketing director of EuropeStar Ltd.; head of satellite sales for Merlin Communications; director of satellite sales for Williams Vyvx Services; and head of market planning & analysis for Inmarsat. Previously, he served some 13

years with BT in various operational and commercial roles.

CASBAA Elects Todd Miller and William Wade to Board of Directors

Hong Kong, October 22, 2013- CASBAA, the Asia Pacific multichannel TV association, announced the election of **Todd Miller**, Chief Executive Officer, Celestial Tiger Entertainment and **William Wade**, President and CEO, AsiaSat to the Board of Directors. Re-elected as Chairman of CASBAA was Marcel Fenez, Global Leader, Entertainment & Media Practice, PricewaterhouseCoopers and re-elected for additional terms on the Board were Janice Lee, Managing Director, TV and New Media, PCCW Ltd. and Mark Patterson, CEO Asia Pacific, GroupM.

Todd Miller, Chief Executive Officer of Celestial Tiger Entertainment, is responsible for driving the company's core businesses of branded pay-TV channels, content creation and content distribution across Asia and beyond.

Prior to joining Celestial Tiger Entertainment, Miller spent 17 years at Sony Pictures Television, where he last served as Executive Vice President, Networks, Asia-Pacific, overseeing and managing over 25 television networks and channel investments in the region. Mr. Miller has previously served two terms on the Board of Directors of CASBAA.

Wade was appointed as CEO on 1 August 2010 to lead AsiaSat, with his title changed to President & CEO from 1 January 2011. Prior to assuming his role as CEO, he had served as AsiaSat's Deputy CEO for 16 years. Mr. Wade has over 26 years' experience in the satellite and cable television industry. Prior to joining AsiaSat in April 1994, he was with Hutchison Whampoa, as Director of Business Development for Pan Asian Systems, and was in charge of all sales and regional operations.

Miller and Wade will be replacing retiring members Robert Gilby, SVP &

MD, Disney-ABC International Television (Asia Pacific) and Steve Marcopoto, President and Managing Director, Turner Broadcasting System Asia Pacific

e2v Appoints Stephen Blair as Chief Executive

Chelmsford, England, Oct. 18, 2013 — Aerospace and defense company **e2v** has named **Stephen Blair**, formerly of Spectris, as its chief executive. He will join the company during the first quarter of 2014, with the exact date yet to be finalized according to e2v.

Since May 2011, Blair has served as business group director for Spectris plc, an England-based company with business units in materials analysis, test and measurement, in-line instrumentation and industrial control. Since January 2013, Blair has been the executive board member responsible for the in-line instrumentation and industrial controls segments.



Stephen Blair

Prior to joining Spectris, Blair held various positions at Invensys plc, with the last being president, Invensys Operations Management for North America, based in Houston.

Blair holds a BEng (Hons) in electronic engineering from the University of Sheffield in England.

Kymeta Corporation Announces Its Advisory Board

Redmond, Wash., October 17, 2013 — **Kymeta Corporation**, the company commercializing innovative metamaterials-based antennas for satellite communications, today announced the appointment of an advisory board of industry luminaries to assist in the growth of Kymeta as it moves toward bringing

its innovative satellite antenna products to market.

The newly formed Kymeta advisory board consists of:

T. Allan McArtor – Chairman of Airbus Americas, Inc.;

Tuvia Barak – former head of Tadiran, Inc.'s North American operations and a leading aerospace industry expert;

David R. Smith, Ph.D. – Professor at Duke University and Director of the Center for Metamaterials and Integrated Plasmonics;

Neil Mackay, Ph.D. – former President and CEO of EMS Technologies; and

Susan Irwin – President of Euroconsult US Inc. and a leading satellite industry advisor.

Tedial Appoints Stoddart as Sales Director-Latin America

Malaga, Spain, Oct. 17, 2013 — Tedial has appointed **Nigel Stoddart** as Sales Director, Latin America. With more than 18 years' experience in key account management, direct and channel sales management in the South American market, Tedial said Stoddart is well positioned to oversee and develop sales across the region.

Prior to joining Tedial, Stoddart spent over ten years as Sales Manager, South America at Grass Valley. In his new position at Tedial he will be based in Argentina where he will direct the sales operation for the Latin America and Caribbean regions.

During a career that spans nearly four decades Stoddart has also held key sales roles at Thomson Multimedia S.A and Philips BTS as well as technical and engineering positions at



Nigel Stoddart

Ampex, RCA Broadcast, Oman Television and the BBC.

Esther Mesas, Tedial's Chief Sales and Marketing Officer, said Nigel's vast experience and professionalism will make him a valuable asset to Tedial."

Surrey Satellite US Appoints Doug Gerull as COO

Englewood, CO, Oct. 11, 2013 — Surrey Satellite Technology US has named **Doug Gerull** as its Chief Operating officer. In this capacity, Gerull will be assisting SST-US in building out its U.S. manufacturing capacity and cultivating the markets for satellite technology within the U.S. commercial, civil government, and Department of Defense sectors



Doug Gerull

Doug Gerull's career spans large corporate and start-up environments with particular emphasis on geospatial technologies. He cofounded and served as a director of DigitalGlobe (initially WorldView), and prior to that was executive vice president of Intergraph Corporation in charge of its Mapping Sciences Division.

He also served as a group manager for Carl Zeiss where he managed distribution of aerial sensors and measurement systems for civilian and military programs.

Gerull is a graduate in photogrammetric engineering from the International Institute for Aerospace Survey and Earth Sciences (ITC) in The Netherlands and holds patents in methods for relational and object data base integration.

Michele Gosetti Named Interim CEO, Globecast Americas

New York City, NY, October 9, 2013—Globecast announced that Mr. **Michele Gosetti** will take on the role of

Interim Chief Executive Officer of Globecast Americas, effective immediately, following the departure of Lisa Coelho.

"Over her two years as CEO of Globecast Americas, Lisa Coelho oversaw the improvement of the company's technical abilities, customer support, and quality of service," said Globecast Chairman and CEO Olivier Barberot. "Michele Gosetti's mission will not only be to take these activities to the next level, but also to find efficiencies between our activities in the Americas and the global group, to the benefit of our broadcast clients around the world."



Michele Gosetti

Gosetti will continue to serve as Chief Financial Officer of Globecast Americas, in addition to his new responsibilities. Prior to joining Globecast Americas, he held senior management positions at Globecast in France, Italy, and Singapore.

Astrium Services Government Appoints Spitler as President

Rockville, Md, October 4, 2013--Astrium Americas has appointed **Ed Spitler** as president of its subsidiary Astrium Services Government, Inc Spitler, who served as Astrium Services Government, Inc.'s chief operating officer since May 2012, brings more than 25 years of senior executive level experience in military, government and commercial satellite operations. He will be responsible for leading the development and execution of the company's overall business strategy.

Spitler is the recipient of numerous industry awards including the Washington Technology's Government Channel Leadership Award and is a recipient of Intelsat's Partnership Award.



Key industry trends and opportunities.

ITU Releases Tech Figures & Global Rankings

Geneva, October 7, 2013 – Mobile broadband over smartphones and tablets has become the fastest growing segment of the global ICT market, according to ITU's flagship annual report *Measuring the Information Society 2013*. New figures released today show buoyant global demand for information and communication technology (ICT) products and services, steadily declining prices for both cellular and broadband services, and unprecedented growth in 3G uptake.

By end 2013 there will be 6.8 billion total mobile-cellular subscriptions – almost as many as there are people on the planet.

An estimated 2.7 billion people will also be connected to the Internet – though speeds and prices vary widely, both across and within regions.

Mobile broadband connections over 3G and 3G+ networks are growing at an average annual rate of 40 per cent, equating to 2.1 billion mobile-broadband subscriptions and a global penetration rate of almost 30 per cent. Almost 50 per cent of all people worldwide are now covered by a 3G network.

ICT Development Index Country Rankings

New data from the 2013 edition of *Measuring the Information Society* reveal that the Republic of Korea leads the world in terms of overall ICT development for the third consecutive year, followed closely by Sweden, Iceland, Denmark, Finland and Norway.

The Netherlands, the United Kingdom, Luxembourg and Hong Kong (China) also rank in the top 10, with the UK nudging into the top 10 group from 11th position last year.

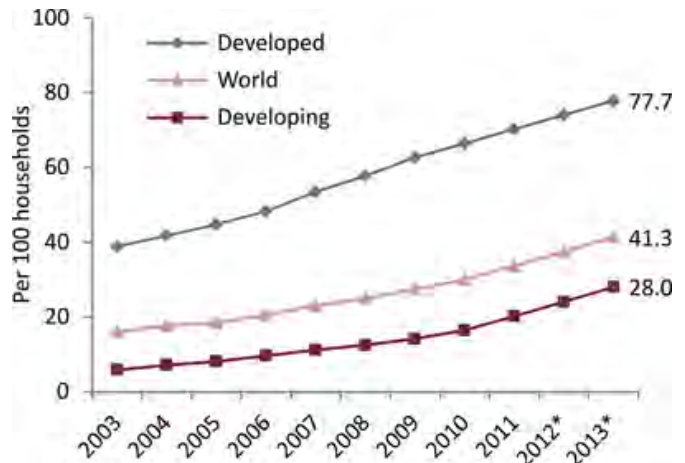
ITU's ICT Development Index (IDI)* ranks 157 countries according to their level of ICT access, use and skills, and compares 2011 and 2012 scores. It is widely recognized by government, UN agencies and industry as the most accurate and impartial measure of overall national ICT development.

Top Performers—and Connectivity Challenges

All countries in the IDI top 30 are high-income countries, underlining the strong link between income and ICT progress.

There are large differences between developed and developing countries, with IDI values on average twice as high in the

Percentage of Households with Internet Access



developed world compared with developing countries.

The report identifies a group of ‘most dynamic countries’, which have recorded above-average improvements in their IDI rank or value over the past 12 months. These include (in order of most improved): United Arab Emirates, Lebanon, Barbados, Seychelles, Belarus, Costa Rica, Mongolia, Zambia, Australia, Bangladesh, Oman and Zimbabwe.

The report also identifies the countries with the lowest IDI levels – so-called Least Connected Countries (LCCs). Home to 2.4 billion people – one third of the world's total population – the Least Connected Countries are also the countries that could potentially derive great benefits from better access to and use of ICTs in areas such as health, education and employment.

“This year's IDI figures show much reason for optimism, with governments clearly prioritizing ICTs as a major lever of socio-economic growth, resulting in better access and lower prices,” said ITU Secretary-General Dr Hamadoun I. Touré. “Our most pressing challenge is to identify ways to enable those countries which are still struggling to connect their populations to deploy the networks and services that will help lift them out of poverty.”

Broadband Pricing & Affordability

Analysis of trends in broadband pricing in more than 160 countries shows that in the four years between 2008-2012 fixed-broadband prices fell by 82 per cent overall, from 115.1 per cent of average monthly income per capita (GNI p.c.) in 2008 to 22.1 per cent in 2012.

■ Key industry trends and opportunities.

The biggest drop occurred in developing countries, where fixed-broadband prices fell by 30 per cent year on year between 2008 and 2011.

The average price per unit of speed (Mbps) also decreased significantly between 2008 and 2012, with a global median price of USD 19.50 per Mbps in 2012, almost a quarter of the price that was being charged in 2008.

The report also presents for the first time the results of a comprehensive price data collection exercise that was carried out for four different types of mobile-broadband service. Results show that in developing countries mobile broadband is now more affordable than fixed broadband, but still much less affordable than in developed countries.

Austria has the world's most affordable mobile broadband, while Sao Tomé and Príncipe, Zimbabwe and the Democratic Republic of the Congo have the least affordable, with service cost equal to or higher than average monthly gross national income (GNI) per capita. Other countries that rank well for mobile broadband affordability include Qatar, the United Kingdom, Germany, Kuwait and France.

The global broadband affordability target set in 2011 by the ITU/UNESCO Broadband Commission for Digital Development aims to bring the cost of entry-level broadband service to less than 5% of average monthly income.

Digital Natives

A new model developed by ITU for this year's report estimates the size of the digital native population worldwide, showing that in 2012 there were around 363 million digital natives out of a world population of around 7 billion. This equates to 5.2 per cent of the total global population, and 30 per cent of the global youth population. The model defines digital natives as networked youth aged 15-24 years with five or more years of online experience.

Out of a total of 145 million young Internet users in the developed countries, 86.3 per cent are estimated to be digital natives, compared with less than half of the 503 million young Internet users in the developing world. Within the next five years, the digital native population in the developing countries is forecast to more than double.

The report shows that, globally speaking, young people are almost twice as networked as the global population as a whole, with the age gap more pronounced in the developing world.

“This first-ever global measurement of the number of digital natives is very timely, coming just after the presentation to the UN General Assembly in New York of the Youth Declaration developed at ITU's BYND2015 Global Youth Summit, by Costa Rican President Laura Chinchilla. Young people are the most enthusiastic adopters and users of ICTs.



Shipments of Connectable Set-Top Boxes to Nearly Double by 2017

Segundo, Calif., October 21, 2013-- The global market for connectable set-top boxes (STBs) is expected to surge by 91 percent from 2012 through 2017, driven by a number of factors including the adoption of multimedia home gateways (MHGs).

Worldwide shipments of connectable STBs are forecast to rise to 125.6 million units in 2017, up from 65.8 million in 2012, according to the latest [Set-Top Box Market Monitor](#) report from IHS Inc. A total of 45 percent of all STBs shipped in 2017 will be connectable, up from 26 percent in 2012. The attached figure presents the IHS global forecast of connectable STBs.



operators—i.e., cable, satellite and IPTV providers—are distributing connectable STBs.

“Consumers increasingly are demanding connectivity from their electronics devices, and STBs are playing a central role in the networking of products,” said Daniel Simmons, senior principal STB analyst at IHS. “Connected STBs perform all kinds of useful functions, including distributing digital video recorder (DVR) streams to televisions in multiple rooms, as well as delivering video on demand (VoD) and web content to various platforms. Furthermore, MHGs and their associated thin clients, which also employ connectivity, are being used by pay-TV operators to provide advanced services and content to all kinds of IP-connectable devices, including mobile products like smartphones and media tablets.”



CASBAA Convention 2013: Change is in the Air

by Peter Galace, Editor, Asia-Pacific

Industry luminaries from the cable, TV, satellite and IT sectors in Asia examined the merits and challenges of new technology innovation as they discuss the industry's future roadmap during the CASBAA 2013 conference in Hong Kong last month,

Marcel Fenez, CASBAA Chairman, says "OTT services, the continuing threat of piracy, the evolution of technology and the changing habits of the next generation of consumers are all playing a role in steering the direction of the broadcasting industry."

Industry leaders and TV content providers took a hard look at how companies can monetize OTT. Buddy Marini, Managing Director of Hulu Japan, asserted that local content is crucial for success. "The big push is to make more local content," he observed.

Generation C, described by Anthony Zameczkowski, Head of Music, YouTube APAC as those who have grown up with the Internet

and generally love to create, collaborate and connect with society, will play a large part of future TV success.

While acknowledging YouTube's impact, Jeremy Carr, VP of Turner International Asia Pacific said many traditional broadcasters no longer view YouTube as a threat. "We have to try anything available, and understand our audience, our content and market dynamics," he added.

However, Brian Lau of FOX International Channels noted that the vast

amount of illegal content on YouTube and elsewhere online has made it difficult to monetise original content. Lau also added that the audience needs to be educated to value content.

The emphasis on premium content was echoed by Charlie Muirhead, CEO & Founder of Rightster, who said the Internet had given rise to "global niche

worships brands," said Geraldine Pamphile, VP of NBA Asia, adding that industry players need to produce content that is "truly premium."

DTH operators agreed. "We use better content to compete, and what we are beating is zero prices," said Guntur S. Siboro, President-Director of Aora TV. "It's about quality content; if we can provide affordable platforms, people

will pay for quality," said Glen Tindall, VP, Asia-Pacific Sales of SES, who cited Germany as a good example.

But the convention also looked at a demographic that has grown up not paying for content. On a panel devoted to "the millennials," Ben Reneker, Associate Director of SNL Kagan, identified broadband internet connectivity as the generation's number one communication method.

Christine Fellowes, MD, Asia Pacific, Uni-

versal Networks International said the pay TV industry needs to "cater to the needs of young consumers who ask for mobility and flexibility." Ashely Jordan, CEO of Fashion One emphasized the importance of convenience, content, and channel brand in converting viewers to become subscribers to premium content.

Tan Tong Hai, CEO of StarHub, argued that the future will be tough for TV, especially with so many "destructive new players" in the market. "We do not



The theme of the four-day CASBAA Convention 2013 held in Hong Kong was "Change is in the Air." Key industry executives discussed the merits and challenges of new technology innovation and industry's future roadmap.

markets." He insisted that "high premium content will keep those niche audiences engaged."

Tony McGinn of MCM Entertainment Group said the future of TV is not YouTube. "Our ultimate job is to pull content back from YouTube," added Angelos Frangopoulos, CEO of Australian News Channel.

When queried whether young audiences had no loyalty to TV channels, participants disagreed. "The young audience

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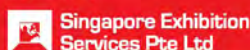


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know how to handle the piracy issue. Change is also so fast that it is better to hold hands and partner.”

Capturing Viewers, Increasing ads

New strategies to capture and retain viewers, while increasing advertisement potential, were also key areas of focus. Participants agreed that local relevancy was crucial in Asia.

Zanny Liu, Senior Manager of A+E Networks Asia, noted that the *Ride N' Seek* documentary series, featuring US-born biker Jaime Dempsey and her Harley-Davidson, successfully met Malaysian viewers' expectations. Comments on Jaime Dempsey's Facebook page showed that “Malaysia fans want more,” said Liu.

Peter Giakoumelos, VP of Discovery Network Asia Pacific, also advised not to restrict content delivery to a few platforms: “Today, the media landscape is diverse and redefined. All we have done is to satisfy curiosity, and provide the highest quality content that entertains, engages and enlightens.”

Use of branded content is also gaining traction in Asia. Ah Jin Jung of Turner Broadcasting Systems Asia Pacific, said their choice of using branded content for the *Cha-Ching Money Smart Kids* financial literacy programme allowed them to “maximise exposure and integrate into the kids' lifestyles.”

Kar-Tai Koh of Shell Advance Motorcycle, noted that branded content can help to create a bond between the brand and the target audience. Commenting on the *Freedom Riders Asia* series, he noted: “We wanted Shell to develop a bond with the biking community. And the bikers wanted to see, hear, and be part of it.” However, participants also highlighted looming challenges. “The biggest challenge that we have is to create interesting and engaging content, and deliver the client's messages to the customers at the same time,” said Mike Rich, CEO of Content (APAC), GroupM.

“...OTT services, the continuing threat of piracy, the evolution of technology and the changing habits of the next generation of consumers are all playing a role in steering the direction of the broadcasting industry...”

—Marcel Fenez, CASBAA Chairman

Measuring pay TV effectiveness was another hot topic during the Convention. Although this debate has been raging for years, participants noted that the alternative measurement system, Return Path Data (RPD), is showing promise. “RPD provides data and information for the niche channels among different segments,” said Henry Robles of NBCUniversal. Nick Burfitt of Kantar Media Audiences, who observed that RPD is becoming widespread, noted: “It can fill some of the gaps among the traditional [measurement] methods and provide solutions.”

However, Janice Lee, Managing Director of PCCW argued that RPD will not replace but supplement traditional methods. “Consumer behaviours are changing and cannot be captured yet, and we also have more OTT users at the same time. RPD supplements traditional [measurement] methods in order to provide a comprehensive view,” she added.


Stellar DTT Growth

John Tsang Chun-wah, Financial Secretary of Hong Kong Special Administrative Region (HKSAR) remarked that the two new free-to-air television licenses awarded in October will change the landscape of terrestrial TV broadcasting industry in Hong Kong and will bring more choices for consumers.

Tsang said that the penetration of digital terrestrial TV (DTT) is growing at a satisfactory rate “with more than 80 per cent of our households already enjoying the greater program variety and better

picture quality of DTT.” Hong Kong's high mobile penetration, at over 230 per cent, is also presenting new opportunities for mobile data services development, with the government assisting by auctioning off new spectrums.

Thailand is following a slightly different route in building its DTT market. Natee Sukonrat of National Broadcasting and Telecommunications Commission (NBTC) said the Thai government would auction off the rights to broadcast DTT channels to the highest bidders, and use the proceeds to subsidize digital receivers for consumers. Natee also said that years of lax regulation has made the Commission's job difficult, with the existence of many illegal operators. He admitted that NBTC “cannot do everything by ourselves” but will have to cooperate with the government and industry as they look to close cable operations that carry pirated or unlicensed content or violate intellectual property.

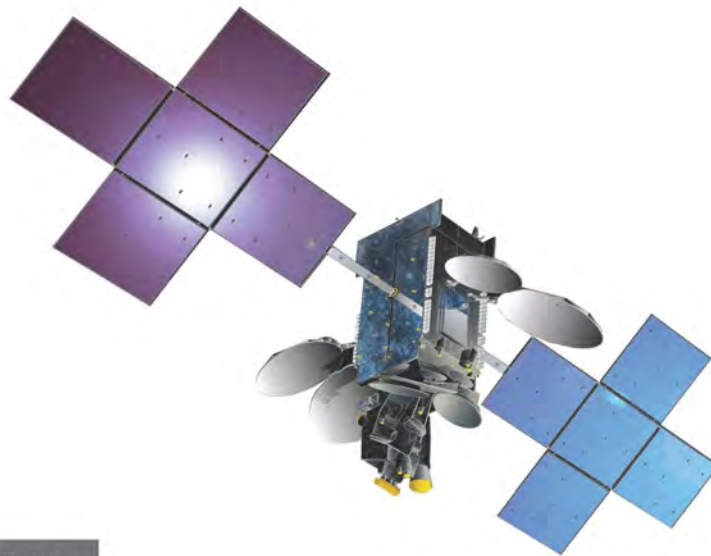
Meanwhile, Yves Bigot, CEO, TV5MONDE noted that broadcasters need to adopt new tools to reach today's audience or risk losing them to smaller, nimbler niche players. He discussed how his company was able to successfully roll out OTT services to complement its linear channels business. Jean-Briac Perrette of Discovery Communications highlighted the value of a multi-channel approach to engaging the audience when it discussed its successful launch of their TestTube service. 



Peter I. Galace is editor for Asia Pacific of *Satellite Markets and Research*. He writes extensively on telecommunications and satellite developments in Asia for numerous publications and research firms. He can be reached at peter@satellitemarkets.com

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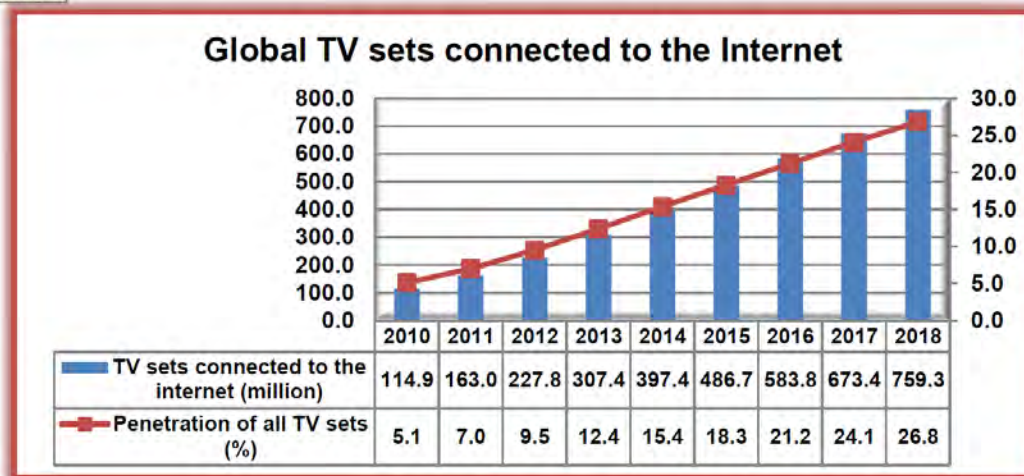
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Vital Statistics

Massive Boom in Connected TVs

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The number of TV sets connected to the Internet will reach 759 million by 2018 for 40 countries covered in the Connected TV Forecasts report, by Digital TV Research, up from 115 million at end-2010 and the 307 million expected at end-2013. This translates to 26.8% of global TV sets by 2018, up from only 5.1% at end-2010 and 12.4% by end-2013.

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Company Name	Symbol	Price (Nov. 01)	% Change from Last Month	52-wk Range		% change from 52-wk High
Satellite Operators						
Asia Satellite Telecommunications	1135.HK	30.05	2.91%	26.85	31.20	↓ 3.69%
Eutelsat Communications S.A.	ETL.PA	23.52	0.94%	20.41	28.15	↓ 16.43%
APT Satellite Holdings Ltd.	1045.HK	8.40	6.06%	1.74	8.65	↓ 2.89%
Inmarsat Plc	ISAT.L	724.50	0.98%	80.01	749.00	↓ 3.27%
SES GLOBAL FDR	SES.F	21.59	0.79%	20.81	25.00	↓ 13.64%
Satellite and Component Manufacturers						
The Boeing Company	BA	133.03	12.98%	69.30	133.50	↓ 0.35%
COM DEV International Ltd.	CDV.TO	4.16	0.73%	2.83	4.40	↓ 5.45%
Lockheed Martin Corporation	LMT	134.55	5.53%	85.88	136.84	↓ 1.67%
Loral Space & Communications, Inc.	LORL	72.20	6.33%	51.91	85.84	↓ 15.89%
Orbital Sciences Corp.	ORB	23.48	8.60%	11.90	23.91	↓ 1.80%
Ground Equipment Manufacturers						
C-Com Satellite Systems Inc.	CMLV	1.86	-8.82%	0.62	2.37	↓ 21.52%
Comtech Telecommunications Corp.	CMTL	30.16	23.45%	22.33	30.51	↓ 1.15%
Harris Corporation	HRS	61.72	3.26%	41.08	62.81	↓ 1.74%
Honeywell International Inc.	HON	86.91	4.43%	58.29	87.94	↓ 1.17%
ViaSat Inc.	VSAT	65.67	2.58%	34.67	73.43	↓ 10.57%
Satellite Service Providers						
Gilat Satellite Networks Ltd.	GILT	5.14	3.42%	4.33	6.20	↓ 17.10%
Globecom Systems Inc.	GCOM	14.06	0.43%	10.28	14.91	↓ 5.70%
International Datacasting Corporation	IDC.TO	0.18	-2.70%	0.16	0.25	↓ 28.00%
ORBCOMM, Inc.	ORBC	6.06	14.99%	2.97	6.19	↓ 2.10%
RRSat Global Communications Network Ltd	RRST	7.80	1.04%	6.02	9.35	↓ 16.58%
Consumer Satellite Services						
British Sky Broadcasting Group plc	BSYBY	60.50	5.77%	46.45	62.02	↓ 2.45%
DIRECTV	DTV	63.67	6.47%	47.71	67.85	↓ 6.16%
Dish Network Corp.	DISH	48.50	6.17%	33.79	49.59	↓ 2.20%
Globalstar Inc.	GSAT	1.40	21.74%	0.25	1.53	↓ 8.50%
SIRIUS XM Radio Inc.	SIRI	3.79	-4.65%	2.55	4.18	↓ 9.33%

INDEX	Index Value (Nov. 01)	% Change from Last Month	% Change Jan. 03, 2013
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S & P 500	1,761.64	3.93%	20.71%

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