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Industry Trends, News Analysis, Market Intelligence and Opportunities

CES 2014: What it Means for the Satellite Industry

by Elisabeth Tweedie, Associate Editor

CES 2014 – how do you sum up a show that covers two million square feet of exhibition space displaying everything from mattresses to cars and has over a hundred presentations and discussion sessions (including one with Tom Wheeler the new Chairman of the FCC) in a few thousand words? The answer to that question is: *you can't!* So I'm going to focus on a few key highlights which are interesting and fun, and most of which are relevant to the satellite industry.

With never-before seen tech breakthroughs and thousands of new products launched, innovation took center stage at the 2014 CES. (photo: CES)

On the show floor some of the busiest exhibits were those of the auto manufacturers all of whom were demonstrating varying aspects of driverless cars. Audi and BMW had a self-parking car that enabled driver and passenger to exit the car which could then squeeze itself into a very tight space; one can only hope that the car it parks next to has a similar facility or some drivers could find themselves unable to leave the parking lot! Valeo (an automotive equipment supplier) had a similar feature that could be controlled from an iPhone App and included finding the parking spot. Audi also demonstrated the self-driving car – currently limited to speeds of less than 40mph. Driverless cars are certainly attention grabbing but technology in the car is in no-way limited to that. GM announced that it would it will be building 4G/LTE connectivity into ten of its models. Apple is working with BMW, GM, Honda, Mercedes and Nissan to bring iOS to cars and Google announced that it will be working with GM, Honda and Hyundai to get the Android OS installed in cars. All of this connectivity will be used for driver information– vehicle and traffic conditions for example, for entertainment and commerce – appropriate mood music for the driver and online shopping for passengers and ultimately to connect the car to the automated home.

An extension of the connected car is the connected tractor or combine harvester. Keith Soltwedel from John Deere talked about how connectivity is transforming farming. Initially it was John Deere

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From the Editor

Watching Developments from CES

The annual CES show held in Las Vegas at the beginning of the year has always been a window of things to come and has been the traditional launch pad for groundbreaking technologies such as the Compact-disc player in 1981 and High Definition TV in 1998. More recently the show has evolved to much more than a platform for launching consumer electronic products, which mobility and connectivity becoming more in demand among consumers.

This year the buzz at CES was the "Internet of Things" and wearable technology. The internet is not just connecting people but all kinds of appliances and devices that you can find in your home. The CES even featured a driverless car, which rolled in during one of the keynote presentations. As Elisabeth Tweedie in our cover story points out, wearable technology was evident at the show, but these are nascent technologies for niche applications such as sports and fitness, among others. These technologies are still a few years away from full-featured development and adoption. Despite, Elisabeth in her article explains why the satellite industry should start paying more attention to the development at CES.

The CES is not yet a standard stop in the satellite industry trade show circuit, but it might evolve into such in the near future. Meanwhile, we'll continue reporting to you development at this important show and the others, too.

Virgil Labrador

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construction equipment that was wirelessly connected to a central database, but since 2012 all farm equipment has the capability to connect to Farmsite – a cloud based server. Apart from being used as a diagnostic tool – which in itself is transforming the repair business by eliminating multiple trips to a farm when something goes wrong - connectivity means that everything that piece of equipment does as it goes through a field is monitored and stored in a cloud based server. That data is then used by farmers and selected partners to identify ways to increase efficiency and yields for the next year, something that is increasingly important as the world population grows while farm acreage remains static or declines.

John Deere also has plans to develop Turfsite for home garden equipment.

One of the consistently crowded stands was the Parrot one, where regular demonstrations of mini drones "dancing" to music captured the attention of all who walked by. While at present these largely fall into the category of "toys for the boys" there are many practical uses for the quadricopters that were equipped with HD cameras and WiFi connectivity.

Samsung unveiled its curved Ultra HD TV at the CES 2014. The curved screen provides a "3-D" effect on the viewer. (photo courtesy of CES)

Wearable Technologies

Under the new leadership of Brian Krzanich Intel is diversifying into new areas and working with a variety of partners including Barney's and Fashion Designers of America to introduce wearables. One of the more interesting devices shown was a "Onesie" a romper suit with a small "turtle" the size of a baby's hand containing an Edison computer. The Edison is an ultra-low power, dual core Pentium class processor the size of an SD card with built in WiFi, Bluetooth and an App Store. This enables the turtle to monitor the baby's vital signs and communicate to a smartphone, alerting the parent when something is amiss. In the future it may also – as Intel demonstrated – communicate to a coffee cup with a built in display, which in turn could communicate to an automatic bottle warmer when needed. The basic version is being marketed by Rest Devices and is due on the market in February.

Wearables were everywhere, devices to monitor seemingly nearly every bodily function and encourage you to adopt a healthier lifestyle. These were being shown both by familiar names – Nike, Fitbit, Sony and LG for example, and also by numerous Chinese manufacturers with less familiar names, but lower price tags. The Chinese had a large presence at CES this year and were noticeable in almost every category.

Internet of Everything

Underlying all of this is "The Internet of Things" (IoT) or as Cisco (in my opinion more accurately) likes to describe it "The Internet of Everything" (IoE).

According to the counter on the Cisco website at the time of writing there were 10.7 Billion devices (people and things) connected to the Internet and this is projected to rise to 50 Billion by 2020, large as this number sounds it is only 2.7% of all the "things" in the world. By the time you read this, the number of connected devices will probably be closer to 12 Billion. Connected devices go way beyond vehicles and wearables: refrigerators, shopping trollies, garbage cans, parking spaces, street lighting to name but a few are all included. John Chambers, CEO of Cisco, estimated that smart parking alone represented a US$ 41 Billion global opportunity, while smart garbage cans (which would indicate when they needed to be emptied, so saving on unnecessary street collections) represented a US$ 10 Billion saving worldwide. He put the potential return on investment for the retail industry investing in smart devices at US$ 1.5 Trillion. The

overall cost benefit of all the IoE he put at US$ 19 Trillion. This would come both from savings and additional revenue which would be generated by better decisions being made as a result of massive connectivity between devices.

Barcelona is one of the few cities in Europe to be running a surplus and one of the few cities in the world to be actively adopting the IoE. Smart water meters, street lighting and parking spaces have all been introduced. Toni Vives the Deputy Mayor said that by doing this the bill for street lighting had fallen by a third, parking revenue increased by a third and US$ 58 million a year was being saved on water.

Ultra HD

No mention of CES would be complete without mentioning displays: walking around the show floor one could be forgiven for thinking that Ultra HD was already mainstream, and with the number of manufacturers including the Chinese showing products there is real potential for a price drop in the near future which may help propel consumer adoption. However as I have commented previously there are still significant issues to be overcome at other parts of the value chain. OLED screens were also numerous and in some cases bendable – to provide that immersive viewing experience. There were also large touch sensitive LED screens that could also be used for drawing.

Dolby – a company known better for innovations in sound technology has another approach and was demonstrating Dolby Vision which is being incorporated into TVs made by Sharp and TCL. Dolby Vision increases the brightness and contrast ratio to show much brighter colors. Currently the colors seen on TV screens are "dumbed down" compared to the original colors captured by the camera. A typical TV has a brightness of around 100 nits. To put this into perspective, a 100 watt light bulb has a brightness of 18,000 nits and on a sunny day even black asphalt can be over 2,000 nits. By increasing both the brightness and the contrast Dolby Vision enables very much more realistic and striking images in both HD and UHD.

What it All means for Satellite

Driverless Cars, the IoE, Ultra HD, Dolby Vision, all of these mean yet more data. From the beginning of time until 2003 we had generated five Exabytes of data, now we produce that amount every two days! According to

Intel CEO Brian Krzanich invited a select group of young entrepreneurs to join him on stage.

the latest Visual Networking Index from Cisco in 2017 the average Internet household will generate 74.5GB of data more than double the 31.6GB generated in 2012. Although M2M IP traffic is projected to grow rapidly in the next few years – by 2017 a mobile M2M device will be generating almost as much data per month as a smartphone does now – M2M traffic will still only represent 3.2% of total IP traffic, compared to video's 73%.

Should we as an industry be paying more attention to CES?

The only exhibitor from the industry was Dish and as far as I could tell we were not well represented amongst attendees either. Rob Llanes from SES was there and he commented "CES is relevant to the satellite industry because it gives us a peek into the future of consumer electronics. We have some market forces that I believe will work in favor of satellite. For example, I believe as widely available commoditized RF hardware and software is adapted for new uses it opens up opportunities to enter new markets for satellites in consumer devices"

Almost everything exhibited (with the exception of phone and tablet cases) needs bandwidth in order to function. We provide bandwidth: directly to the consumer, to businesses, as backhaul, as Content Delivery Networks and in some regions as part of the backbone. There will be some areas that the IoE reaches and cellular networks don't.

Keith Soltwedel commented "Although you may see TV commercials advertising that 98% of Americans are covered by cell coverage, I can assure you that we don't even have 75-80% of our farm land covered by cellular." Granted you don't need to attend CES to know that demand for bandwidth is growing, but being there helps identify the why and the what and may even spark ideas for new areas of business.

At the end of his keynote speech Brian Krzanich invited select individuals to join him on stage. These were people that he recognized as innovators shaping the industry. The youngest Skylor was 13 years old and "a hobbyist, 3D printing and Galileo expert" (Galileo is a new Intel microcontroller board with a simple programming language that can be used by children as young as seven or eight). Another youngster was Joey aged 16 and the youngest Intel employee. As an industry we already recognize and foster innovation with the SSPI Future Leader Awards, but should we be looking outside the industry for some young innovators of our own?

Elisabeth Tweedie has over 20 years experience at the cutting edge of new communication and entertainment technologies. She is the founder and President of Definitive Direction a consultancy that focuses on researching and evaluating the long term potential for new ventures, initiating their development and identifying and developing appropriate alliances. During her 10 years at Hughes Electronics she worked on every acquisition and new business that the company considered during her time there. www.definitivedirection.com She can be reached at: etweedie@definitivedirection.com

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The "Death" of Fiber

by Lou Zacharilla

On March 11th, when Mark Rathberg, General Manager of Ground Services for SES steps to the podium to address the 19th gathering of world's teleport operators at the Teleport Awards for Excellence luncheon at Satellite 2014 in Washington, DC, his subject, "Innovation," will be well-received. There was some interesting groundwork laid for his topic on the island of Oahu, where World Teleport Association's annual "think tank" was held on January 19th at the Pacific Telecommunications Council's conference. I was the moderator of a loosely-structured, free flowing event that invited any idea and any approach on the improbable topic, "The Death of Fiber."

Among the memorable quotes and visual moments were those by industry thinkers Chris Stott Christopher Stott, Chairman & CEO of ManSat LLC and Gary Hatch, Co-Founder and CEO, ATCi Communications. Each gave a coherent, fascinating analysis of the disintermediation we are experiencing in the midst of a data revolution. Stott noted that if fiber and satellite were "dying," at least in the ways we use them, then *everything* is dying. Especially the way products and services are designed and structured. I dubbed his presentation, "The Death of Everything." It got attention for the rest of the conference. It was so brilliantly-stated, that I wanted to give him another chance to talk about it in a *Back and Forth*.

ATCi's maverick CEO, Gary Hatch, also advocated for a total embrace of change. Gary let Hollywood make his point. To demonstrate how the teleport industry is living in the past, he brought a funny video clip to make his point. I am embedding the link below as part of a virtual conversation I had with the two of them recently. Excerpts of the back and forth between us follows:

"...the way we have served the market using fiber, satellite and wireless services is changing right before our eyes. It is NOT the same market we are accustomed to..."

-Christopher Stott, CEO, ManSat

Lou A. Zacharilla (LAZ): The title of this year's WTA workshop was deliberately provocative. I wanted to ask whether our industry has adapted to change. You guys both said, not really. Or, more precisely, you said that it had not done it in a way that unstuck it from the past. Chris, you issued an articulate warning. You said that the market as we know it is fading fast and we had better pay attention.

Christopher Stott: Right. When I said we are approaching the "death of everything," I meant that the way we have served the market using fiber, satellite and wireless services is changing right before our eyes. It is NOT the same market we are accustomed to.

LAZ: You did not mean dying in the negative?

Stott: No. I think that it is the beginning – potentially – of something wonderful. A great opportunity. However, it represents a challenge that right now we cannot get our arms around.

LAZ: But we seem to adapt. We have HTS and a lot new technologies and standards that are dealing with it.

Stott: Maybe. But that is engineering stuff. I think the trends are so much bigger than another engineered box or even a Ka-band bird. You cannot imagine what is happening, Lou. We are facing unprecedented demand caused by one fact: the exponential growth factors imbedded in our needs for data. I know it sounds academic or whatever, but it is truly Digital Singularity that could be the wave whose effects will wash over everything we do.

LAZ: What exactly is it that we need to watch for?

Stott: The Digital Singularity in technology is an exponential combination of the Communications Singularity, when every human is on line going alongside Data Singularity, when everything is on line. Call it the "Internet of Everything."

LAZ: Will this happen within the next five to ten years?

Stott: Sooner. Like last week. Last week Google bought Nest for $3.2 billion. I think this is a signal of a great change coming.

LAZ: What will the change look like?

Stott: It sounds like sci-fi: people will soon be beyond wearable tech and move to imbedded tech, and go from iPod playlists to an entire digital signature of their lives. We are very close to having personal clouds of metadata and personal *medical* data at the cellular level; our entire DNA, constantly in touch with a medical server monitoring our health every second.

LAZ: It does seem closer than ever.

Stott: We are already seeing traces of the Internet of Everything, where every object in our lives, our homes, villages and cities; every valve, gas pump, light bulb, refrigerator generates data and communicates. When this happens, and we can access our digital lives anywhere on any device, where does fiber or satellite find itself? Where do we? It is a fascinating question.

LAZ: It is coming at us.

Stott: It is. The question we ask on the Isle of Man, where more satellite companies are clustered than anywhere else on earth, is how do we prepare now? We do not want to miss these big, big opportunities ahead.

LAZ: Gary, you agreed with Chris. In fact, you said that the teleport and satellite industries are like generals fighting the last war. Living way in the past.

Gary Hatch: Yeah! Absolutely. Our industry is living in the past. 1982 to be exact.

LAZ: 1982?

"...Now we need to think about fiber and satellite as media that allow WTA member teleports to combine 'highway and skyway'..."

-Gary Hatch, CEO, ATCi

Hatch: Back then money was falling from the sky, or so it seemed. It was easy and we thought it was going to last forever. When you have that experience you start thinking that if you just go back and recapture the formula from the past, you will get it again.

LAZ: It doesn't work that way?

Hatch: No. Never. Sometimes the industry reminds me of that scene in *Napoleon Dynamite*, where the old athlete is replaying the game that might-have-been.

LAZ: And you included that scene in your video presentation, which was hilarious and sobering. (Note: here is the link: https://vimeo.com/84694918)

Hatch: I tried to show how innovation works. I also used a scene from *Butch Cassidy and the Sundance Kid*.

LAZ: Where Redford and Newman jump off that scary cliff.

Hatch: You have to jump into the unknown when the future's footsteps are beating down on you.

LAZ: It is dangerous to change.

Hatch: It is the only way to survive. We did it at ATCi with Simulsat. If we hadn't, we would not be where we are today. That was then. Now we need to think about fiber and satellite as media that allow WTA member teleports to combine "highway and skyway."

Stott: Gary's right. We are moving beyond the Pelton Merge through to the death of everything as we know it in terms of data demand and competition platforms. There is no way we can keep up if we see ourselves as we are today. We need to stop thinking of ourselves as fiber or satellite or wireless, and become wholistic communications companies which address a market in need of digital delivery of the type I described. Which brings me back to Google buying Nest. There is a reason that Google wants to get into the thermostat business! Our customers see the future, do we?

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Wireless Demand Projections

by J. Armand Musey

Wireless network traffic growth projections have been significantly cut since the FCC's 2010 National Broadband Plan. The National Broadband Plan projected wireless network demand in 2010 to be 468 billion MB, vs the 398 billion MB actually carried in 2010 according to the CTIA. In 2011, the spread got wider, 1090 billion MB projected vs 890 billion MB actually carried. And in 2012, the FCC projected 2219 billion MB was even further from the actual traffic of 1468 billion MB. Extrapolating these actual numbers to 2015 suggest the current allocation of 608 MHz of spectrum for mobile broadband will be close to actual demand levels in major metro areas. Of course traffic will continue to grown past 2015, but the "crisis" does not appear to be nearly of the proportions projected a few years ago.

Current network growth projections, combined with increases in Wi-Fi offloading and small cell deployment call into question the National Broadband Plan's central conclusion that 300 additional MHz of mobile broadband spectrum would be needed to meet demand by 2015. As we approach 2015, it's become obvious the spectrum crunch is not as severe as once projected. Large swaths of mobile spectrum remain undeveloped – including prime sub-1 GHz spectrum in the 700 MHz band auctioned over six years ago.

"...Lower than projected wireless demand calls into question the need for the planned FCC spectrum auctions over the next few years and pricing the FCC may get if the auctions go ahead as scheduled..."

The difference between the lower wireless network traffic today and earlier higher projections largely comes from two primary: 1) Increased Wi-Fi offloading from 15% in 2009 to over 40% today; and 2) the phasing out of unlimited data plans in the US. While the impact of Wi-Fi offloading is straightforward, the impact of the phasing out of unlimited data plans is less obvious.

Cisco's "Cisco Visual Networking Index: Global Mobile Data Traffic Forecast Update, 2012–2017" finds that from 2010 to 2012 unlimited data plans fell from 81% of data plans to 45%. During this time, the usage of the top 1% of users fell from 52% in January 2010 to 24% in September 2011 to 16% in September 2012. This drop alone can account for the most of the shortfall in wireless traffic growth versus earlier projections.

There are two likely possibilities in terms of wireless traffic growth: The first is that wireless traffic demand of high volume users is high elastic. As users are required to pay for incremental usage, they quickly limit their use. When incremental usage is essentially free, they find ways to use it with traffic that is not important. The second is that carriers had a small number of high usage customer they were able to cull and this reduced their traffic growth rate over the past few years. If the latter is true it suggests the slower growth over the past few years was a one-time event and that growth will accelerate again soon.

But wireless traffic may grow in any case. With threats of an imminent spectrum crunch behind them, carriers appear to be returning to unlimited data plans. Sprint recently announced a new service, Spark, that advertising download speeds of 50-60 Mbs and potentially increasing to 150 Mbs in the future. Presumably this will come from developing its EBS/BRS spectrum, spectrum that has been largely fallow. At the same time, Carriers have been finding enough spectral efficiencies with LTE technology to resume offering unlimited data plans. Presumably if demand starts to grow too rapidly, they will begin to scale back some of these unlimited data packages.

Meanwhile, spectrum prices in the secondary market appear to have stabilized. And no major wireless operator is even participating the H-block auctions underway or bidding for the LightSquared assets in the current bankruptcy auction. This further suggests the need for additional spectrum is not approaching the crisis levels forecast in 2010.

Lower than projected wireless demand calls into question the need for the planned FCC spectrum auctions over the next few years and pricing the FCC may get if the auctions go ahead as scheduled.

J. Armand Musey is the president and founder of Summit Ridge Group LLC (www.summitridgegroup.com). Armand specializes in the satellite, media and telecommunications industries. He has a unique blend of 16 years of equity research, investment banking and consulting experience. He can be reached at: amusey@summitridgegroup.com

Launch Industry Heats Up

by Virgil Labrador, Editor-in-Chief

Following its successful first commercial launch by its Falcon 9 rocket of the SES-8 satellite in December, Space Exploration Technologies (SpaceX) successfully launched the THAICOM 6 satellite for Asian satellite operator THAICOM on January 6.

"Today's successful launch of the THAICOM 6 satellite marks the eighth successful flight in a row for Falcon 9," said Gwynne Shotwell, President of SpaceX. "SpaceX greatly appreciates THAICOM's support throughout this campaign and we look forward to a busy launch schedule in 2014."

The launch of the THAICOM 6 satellite is the second commercial launch by SpaceX. The satellite will provide C-band and Ku-band communications services across Southeast Asia and Africa. The mission was also SpaceX's second launch of a payload to geostationary orbit.

SpaceX has nearly 50 launches on manifest, of which over 60% are for commercial customers. This launch also marks the third of three qualification flights needed to certify the Falcon 9 to fly missions under the Evolved Expendable Launch Vehicle (EELV) program.

Once Falcon 9 is certified, SpaceX will be eligible to compete to launch national security satellites for the U.S. Air Force.

The launch of the THAICOM 6 satellite on January 6 is the second commercial launch to geostationary orbit by SpaceX in a two-month span.
(photo courtesy of Spacex)

Meanwhile, on January 10, Virgin Galactic's SpaceShipTwo suborbital spaceliner successfully conducted yet another test flight, which set an altitude record of 21,641 meters above the skies of California's Mojave Air and Space Port. SpaceShipTwo also attained a top speed of Mach 1.4 — 1.4 times the speed of sound, which is 1,225 km/h at sea level — during the test.

A brainchild of billionaire entrepreneur Richard Branson, Virgin Galactic is 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 January 10 test was the third successful rocket-powered flight for SpaceShipTwo. Virgin Galactic plans to operate a fleet of five SpaceShipTwo spaceplanes in a private passenger-carrying service, starting later this year.

SpaceShipTwo, which can carry six passengers paying up to US$ 250,000 each for the privilege of going to the edge of space some 69 kilometers above the earth. A ride aboard SpaceShipTwo will let passengers experience a few minutes of weightlessness and provide a breathtaking view of the earth against the blackness of space. More than 600 people have put deposits down to reserve a seat to date, including the famous astronomer Stephen Hawking and celebrities like Tom Hanks, Ashton Kutcher, Katy Perry, Brad Pitt and Angelina Jolie.

There are other competing spaceline ventures in various stages of development such as Swiss Space Systems, XCOR, Armadillo Aerospace and even Airbus is planning a business-jet size spaceplane. But Virgin Galactic is the clear leader. The US state of New Mexico is building the first commercial Spaceport to accommodate the budding spaceline companies.

Few people remember the first commercial airline flight over a hundred years ago. In fact even historians have conflicting accounts of the first commercial airline flight. However, we all know how big the commercial airline industry is today, carrying over 54 million passengers a month worldwide.

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. The business models of the main players in the spaceline segment, including Virgin Galactic, 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

Artist rendition of Virgin Galactic's *LauncherOne* dedicated to launching small satellites.
(image courtesy of Virgin Galactic)

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 client needs.

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 the spaceline industry when it takes off.

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 *virgil@satellitemarkets.com*

The Satellite Agenda: The Next Focus

by Martin Jarrold

My previous column for **Satellite Executive Briefing** noted that I would be providing an update to the next event in the GVF-EMP Partnership Conference Portfolio, which takes place in London on 11th & 12th February. **Connectivity 2014: Creating the New "New" Verticals – Air, Water, Surface & Rail** (www.uk-emp.co.uk/emp-home/current-events/connectivity-2014/) is expected to be the first in a new series of the Portfolio, adding to the current series of conferences covering Oil & Gas Communications, Broadband Maritime Communications, and High Throughput Satellites.

Also here, I provide some further information about the next following GVF event, the **GVF MENASAT @ CABSAT 2014 - Satellite Interference Summit**, which takes place at Dubai World Trade Center on 12th & 13th March.

Connectivity 2014 will examine some of the key issues, technological developments, and market trends that feature on the path to a universal connectivity ecosystem, with particular, though not exclusive, reference to the latest developments in the satellite communications marketplace which are focused around the launch of advanced capability payloads into orbit. These payloads have already changed the paradigm of satellite communications capabilities in the realms of the satellite-only connectivity solution, but are also bringing a vastly enhanced dynamic to the wider realms of the satellite+terrestrial hybrid solution – solutions used in the corporate, enterprise, transportation, government, military, consumer, and other, sectors.

The two-day program in London will feature the following 21 topics:

"…Connectivity 2014 will examine some of the key issues, technological developments, and market trends that feature on the path to a universal connectivity ecosystem …"

Day One | 11th February
(For exact session timings please refer to www.uk-emp.co.uk/emp-home/current-events/connectivity-2014/)

Satellite & Connectivity Ecosystems: An Overview of Communicating on the Move: Where Are We Now? | Christopher Baugh, President, NSR

Travellers by Air: Seamless Connectivity for the Long Haul & Commuter Route | Speaker name & job title tbc, Kymeta | Dave Rehbehn, Sales & Marketing Executive, International Markets, Hughes Network Systems | James Collett, Director, Mobility Services, Intelsat

Air, Sea, Land: Enabling Communications Though Tailor Made Solutions – The Role of Satellites in the Transportation Ecosystem | Nick Burrett, Sales Manager, SES

The Super/Mega Yacht: Seamless Connectivity for the High-Seas Market | Tony Holland, Group Airtime & Contracts Director, e3 Systems (partnering with Kymeta)

Satellite & Mobile Connectivity & *The Cloud:* Implications for Maritime Markets | Roger Adamson, Chief Executive Officer, Futurenautics, Chairman, International Maritime Sales & Marketing Association

New Value-New Revenue Opportunities in Growing Mobile Broadband Applications Connectivity Pacome Revillon, Chief Executive Officer, Euroconsult

Insights on Understanding the Connected Air Traveller | Greg Oliveau, International Market Development, Gogo

The Satellite Antenna 'Goes Mobile': From Current to Cutting-Edge Design, Function & Installation | Speaker name & job title tbc, Kymeta | Chris Insall, Manager, Commercial Programmes, Cobham/SeaTel

The Small Cell to the Satellite Terminal: Integrating the VSAT and the Pico/Femto – In the Village & at 40,000 feet | Richard Deasington, Director of Market Development, iDirect & Chairman of the Rural & Mobility Special Interest Group, Small Cell Forum

The Satellite-Terrestrial Network Interface: Planning Imperatives for High-Speed Broadband in a High-Speed Mobile Environment | Speaker name

& job title tbc, ViaSat

Aeronautical & Maritime Regulation: An Evolving Ecosystem for an Expanding Market | Brendan O'Mahony, Director, Market Access & Licensing, Access Partnership | Kumar Singarajah, Director, Regulatory Affairs & Business Development, Avanti Communications | Przemek Bozek, Senior Analyst, Professional Video & Managed Services, IHS Technology

Day Two | 12th February
(For exact session timings please refer to www.uk-emp.co.uk/emp-home/current-events/connectivity-2014/)

Maximizing Seamless Integration & Monetizing Evolving Multi-User-Device Connectivity | Alvaro Sanchez, Sales & Application Engineer, Integrasys

Merging Broadband Satellite & Broadband Wireless into Seamless Ecosystems & Unified Value Chains | David Kantrovitz, Vice President, Sales & Marketing, Satellite Systems, Unique Broadband Systems

Shape-Shifting & Other 'New World' Tricks for Generation Y & the Millennial Traveller | Mark Lambert, Vice President, Sales & Marketing, Managing Director, EMEA Region, Advantech Wireless

The On-Track Traveller: WiFi & Multimedia Services on Commercial High Speed Trains | Diego López, EMEA Sales, Grupo Hispasat

Flexible Satellites for Flexible Connectivity | Simon Barrett, Head of Channel & Proposition Development, Avanti Communications

Putting SatComs in Perspective: Evolution of Mobile Connectivity | Mike Hart, Consultant, Pico Services

Oil & Gas Connectivity in Remote Environments | Bill Green, Global Account Director, Hermes Datacomms

The Broadcaster, the Satellite News Gatherer, Humanitarian Assistance & Development: The Connectivity & Mobility Link | Dave Nicoll, Business Manager, Sematron | Brian Everard, Director, Everard Solutions

Connectivity & Latency: Applications Performance & User Experience | David Burr, Director, Product Development, O3b Networks

Interference Mitigation & Prevention in the Mobile Connectivity Environment | Martin Coleman, Executive Director, sIRG | Martin Jarrold, Chief, International Programme Development, GVF

The **GVF MENASAT @ CABSAT 2014 Satellite Interference Summit** falls into two parts, over two days, 12th & 13th March. Part 1 of the Summit will focus on **"Proactivity"**, and look at Challenges & Preventative Measures, and Part 2 will focus on **"Reactivity"**, and examine Challenges & Mitigation Approaches. The draft Summit program is as follows:

12th March 2014
<u>The Satellite Interference Summit</u> – Part 1: Challenges & Preventative Measures
13:00-13:15 Summit Welcome & Opening Remarks
13:15-14:00 Improper Installations and Training & Certification
14:00-14:45 Sub-Standard Equipment and Product Quality Assurance
14:45-15:15 Refreshments
15:15-16:00 Wireless Interference and Spectrum Security Initiative
16:00-16:45 Information Sharing and Geolocation & Space Data
16:45-17:00 Summit Closing Remarks

13th March 2014
<u>The Satellite Interference Summit</u> – Part 2: Challenges & Mitigation Approaches
13:00-13:15 Summit Welcome & Opening Remarks
13:15-14:45 Deliberate Interference and The Arab States Broadcasting Union (ASBU) Tunis Action Plan: Implementing Solutions for MENA
14:45-15:15 Refreshments
15:15-16:00 Unidentified Carriers and Carrier ID
16:00-16:45 Dysfunctional Networks and Network Validation

16:45-17:00 Summit Closing Remarks

The **Summit** program reflects an important developing private and public sector collaboration. GVF has, over several years, taken a strong leadership position both in developing its own initiatives and programs to tackle interference, and also by working in partnership with a wide range of other interested groups and organizations. The collaboration has included satellite operators, the satellite service solutions provider community, manufacturers of satellite equipment, national broadcasters, and the international broadcasting community as a whole, together with national, regional, and other global organizations, such as **WBU-ISOG**, **sIRG**, the **Space Data Association**, and the **International Telecommunication Union (ITU)**. The program will feature several contributors from these various organizations.

Most recently, in MENA, GVF has collaborated with the **Arab States Broadcasting Union (ASBU)** to develop an Action Plan to address the problem of interference, whether unintended or intentional.

The **ASBU Satellite Interference Forum** took place in Tunis, 6th to 7th October 2013. The **Action Plan**, in summary, features the following elements which will come under further discussion and development for implementation during the **GVF MENASAT @ CABSAT 2014 Satellite Interference Summit**. The full **Action Plan** is too lengthy to represent here in full, and any interested parties are invited to register their intention to participate in the further dialogue at the **GVF Summit** in Dubai in mid-March.

Awareness – ASBU and operators in the MENA and other regions to establish a public awareness campaign, through different Mass Media, that intentional interference will not prevent the Media message to be delivered, as the broadcasters affected will move and find other alternatives (use of another satellite or other frequencies or even other means of Media). Broadcasters in the Region should as well use their access to media to publicize the impact of satellite interference on broadcasting.

Training – ASBU and operators in the MENA region and other regions to establish short and medium training Plans for all broadcasters to ensure the best practice in operation and maintenance of the satellite uplinks systems with the objective of reducing significantly the number of interference incidents. Training to be delivered using ASBU, GVF and other recognized training plans and including the SNG module developed jointly with RFI-EUI, as well as specialized training for satellite Operations/NOC etc.

Earth Station Approvals – ASBU and operators in this region and other regions to request that SNG terminal equipment be tested and approved for use in coordination with GVF's Quality Products Framework, which has been endorsed by RFI-EUI and the World Broadcasting Unions-International Satellite Operations Group (WBU-ISOG) in order to reduce interference caused by faulty satellite newsgathering equipment.

Carrier ID – ASBU and operators to request members and all users in the MENA region to implement carrier ID in line with WBU-ISOG resolutions and to record the progress of this change. All Broadcasting Unions and members to engage with national regulators to make CID a requirement.

Regulatory and Political Actions – ASBU, WBU, satellite operators and all concerned parties recognize the actions of ITU, Radio Regulations Board and TSB, in order to tackle the issue of intentional interference. Their continued support is requested to develop these initiatives. ASBU and WBU will also consider whether it is appropriate for action to be taken by other competent UN bodies such as UNIDIR (United Nations Institute for Disarmament Research) and others.

Further information about the GVF MENASAT @ CABSAT 2014 Satellite Interference Summit can be found by clicking on the 'Conferences' tab at www.cabsat.com. Register your intention to participate in the Summit by contacting me at martin.jarrold@gvf.org.

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

Discovery Takes Majority Stake in Eurosport

Silver Springs, Md., January 21, 2014--Discovery Communications and TF1 Group today announced Discovery would acquire a controlling interest in Eurosport International through an extension of their larger strategic partnership first announced in December 2012. The deal to increase Discovery's interest from 20 to 51% accelerates the original agreement by nearly one year.

The Eurosport network reaches 133 million homes across 54 countries in 20 languages. Eurosport's brands and platforms also include: Eurosport 2 reaching 69 million households across 51 countries; Eurosport HD, the high definition simulcast of Eurosport, available in 32 million homes in 48 countries; Eurosport Asia-Pacific reaching 16 countries; and Eurosportnews, a 24-hour news channel and online hub, providing an up-to-the-minute sports news feed available in 48 countries.

The combined reach of Discovery Communications, Eurosport and the 2013 acquisition of SBS Nordics, will be 2.7 billion cumulative subscribers across nearly 200 networks spanning more than 220 countries and territories worldwide. Discovery Communications will strengthen its leadership as the #1 pay-TV programmer in the world.

Today's agreement was based on an average enterprise valuation for the Eurosport Group of €902 million (approximately US$ 1.2 billion), partly corresponding to the initial valuation and partly to a higher valuation linked to the control of the company. From this Group valuation, the value of Eurosport France (€85 million, approximately US$ 115 million) has been deducted. TF1 expects to retain its 80% interest in Eurosport France until at least January 1, 2015. Also, today's announcement does not impact the other two elements of the original deal – the 20% interest Discovery acquired in TV Breizh, Histoire, Ushuaïa TV and Stylía channels, and a production alliance with TF1 Group. TF1 will retain the ability to exercise a put option over the remaining 49%, which would potentially increase Discovery's ownership to 100%.

The closing of the deal is subject to customary closing conditions, including regulatory approvals, and is expected to occur in the coming months.

Rothschild acted as financial advisor to Discovery Communications on this transaction, and DLA Piper served as its legal advisors. Darrois Villey Maillot Brochier served as legal advisors to TF1 on this transaction.

Sintec Media Makes Offer for Pilat Media

Aviv, Israel, Janaury 16, 2014--SintecMedia announced a deal for the potential acquisition of Pilat Media and its merger into SintecMedia. The deal is worth approximately US$ 103 million.

A large number of shareholders of Pilat Media have agreed to sell at the offered price and subsequently the board of Pilat Media decided to recommend the deal to all its other shareholders.

The deal is subject to various approvals, including 75% of all shareholders (except for SintecMedia) and the process will still take several weeks since it is being structured as a Scheme of Arrangement under UK law and requires a Court approval. Therefore the potential acquisition is subject to this process.

The management of SintecMedia and Pilat Media have together agreed the approach for organizing and managing the enlarged group harmoniously, leveraging the relative strengths of each organisation, according to a company statement.

SintecMedia's strategic plan for the Pilat Media business is to gradually integrate certain functions where appropriate to realise synergy and economies of scale but as both companies face growing demand for their products and services this is unlikely to affect the vast majority of positions and staff across the two companies.

Harris Completes Acquisition of Imagine Communciations

Denver, Colo., Jan. 15, 2014 — Harris Broadcast, a portfolio company of The Gores Group and a m content management and network infrastructure solutions serving the global broadcast, communication service provider, government and enterprise markets, today announced it has completed the acquisition of Imagine Communications, a digital video solutions provider that deliver bandwidth-efficient services with optimum video quality.

"TV Everywhere is the future of our industry, and our customers are vigorously pursuing this path to expand their business models and improve the monetization of content across any screen," said Charlie Vogt, CEO of Harris Broadcast. "The advanced Adaptive Bit Rate (ABR) technology created by Imagine combines quality, density and a small footprint to greatly leapfrog anything else on the market today and improves transcoding economics up to a factor of 10 over competing alternatives.."

On Dec. 4, 2013, Harris Broadcast announced a definitive agreement to acquire Imagine Communications. The acquisition enhances Harris Broadcast's already robust solutions portfolio as the company builds the first true MultiService SDN™ (Software Defined Network), integrating sales, scheduling, automation, playout and delivery throughout both linear and non-linear content distribution networks.

The acquisition expands Harris Broadcast's current R&D and innovation initiatives and increases the company's total global addressable market. Imagine Communications has invested more than 8 years in developing industry-leading technologies and its seasoned R&D team's competencies in ABR, OTT and TV Everywhere bring significant value to Harris Broadcast, according to the company.

"In addition to fully supporting the existing Imagine ICE® Broadcast System customers and penetrating this attractive global market opportunity, we will leverage the quality and innovation in both companies to build next generation solutions around ABR, cloud PVR and Content Delivery Networks," said Steve Reynolds, Chief Technology Officer, Harris Broadcast.

Calendar of Events

February 6-7, 2014, **Mobile Deployable Communications 2014**: Mövenpick City Centre Hotel, Amsterdam, Phone: +44 (0)20 7827 6054, jhitchen@smi-online.co.uk web: www.mobiledeployable.com

February 11-12, 2014**, 'Connectivity 2014': Creating the New "New" Verticals – Air, Water & Surface,** London, UK, Phone: +44 7802 612 924, martin.jarrold@gvf.org & paul.stahl@uk-emp.co.uk Web: www.uk-emp.co.uk/emp-home/current-events/connectivity-2014/

February 11-13, 2014, **WEST 2014**, San Diego Convention Center, San Diego, Calif., USA, contact Paul doCarmo, phone +1-703—631-6130 events@afcea.org web: www.afcea.org/events/West/

February 24-25, 2014, **MilSatCom Middle East & Africa 2014**: Amwaj Rotana, Jumeirah Beach Residence, Dubai, UAE. Phone: +44 (0)20 7827 6054, jhitchen@smi-online.co.uk web: www.milsatcom-mea.com

March 11-13, 2014, **CABSAT 2014**, Dubai World Trade Centre, Dubai, UAE. Contact: cabsat@dwtc.com, phone +971 4 308 6077/6282, web: www.cabsat.com/

March 11-13, 2014, **SATELLITE 2014**, Washington, D.C., Contact: phone +1-301-254-2100, inquiry@satellite2014.com web: www.satellite2014.com

March 31- April 01, 2014, **MilSpace 2014**: Holiday Inn Regents Park, London, UK. Phone: +44 (0)20 7827 6054 jhitchen@smi-online.co.uk web:www.military-space.com

April 1-3, 2014, **Space Tech Expo**, Long Beach, Calif. Phone: US & Canada toll free +1 877 842 6289, Europe: +44 1306 871331, info@spacetechexpo.com web: www.spacetechexpo.com

April 5-14, 2014 (Conferences) April 7-10, 2014 (Exhibits), **NAB 2014**, Las Vegas Convention Center, Las Vegas, Nevada, USA, info@nab.org web:www.nabshow.com

April 7-8, 2014, **ISR 2014**: Holiday Inn Regents Park, London, UK. Phone: +44 (0)20 7827 6054 jhitchen@smi-online.co.uk Web:www.isrconference.com

June 2-4 2014, **Global Space Applications Conference (GLAC)** 2014: UNESCO HQ, Paris, France. Phone: +33 (0)1 45 67 68 46 Glac2014@iafastro.org Web: www.glac2014.org

June 17-20, 2014, **CommunicAsia2014**, Marina Bay Sands, Singapore. CommunicAsia@sesallworld.com, Tel: +65 6233 6638, Web: www.CommunicAsia.com

June 17-20, 2014, **BroadcastAsia2014** Marina Bay Sands, Singapore. BroadcastAsia@sesallworld.com, Tel: +65 6233 6638, Web: www.broadcast-asia.com

Kacific Appoints General Manager and VP-Sales and Markeing

Singapore, January 30, 2014-- Start-up satellite operator **Kacific Broadband Satellite** announced the appointments of **Jacques-Samuel Prolon** as General Manager and **Eley Querner** as Vice President, Sales and Marketing.

Jacques-Samuel has over 15 years' experience in senior telecommunications and IT roles. Before joining Kacific he spent a decade working for language technology solutions, Appen Butler Hill, helping take it from startup to a global leadership position. As Senior Vice President Operations, he led project teams in North and South America, Europe, Asia and Australasia. Prior to that he worked for Altran Europe, providing project management and infrastructure optimisation services to Philips, Solvay Group, BASE, Sud Presse and British Telecom.

Jacques-Samuel Prolon

Jacques-Samuel holds an eMBA from the AGSM and two master degrees, including a telecommunications engineering degree from a French grande ecole, Telecom Sud Paris.

Based in Singapore, Eley is responsible for business development and sales of Kacific's broadband capacity to telecommunications operators, ISPs, government and multinational agencies and large enterprises. Eley will work closely with governments, network operators and other significant stakeholders to provide large scale satellite-based solutions to improve broadband access.

Eley has over 20 years' experience in telecommunications, much with Alcatel, later Alcatel-Lucent. Working in France, Germany, China, Singapore and Indonesia, mostly in regional positions, she held senior roles in business development, pre-sales, sales, contract and bid management. She has spent the last two years consulting to technology companies and assisting them to develop their sales and go to market strategies in Asia-Pacific.

Eley Querney

Eley holds MSc and BS Degrees in Computer Engineering from Middle East Technical University, Turkey.

In December 2013, Kacific announced plans to launch a Ka Band High Throughput Satellite to provide enhanced broadband to 40 million people in the Pacific including the Pacific Islands, New Zealand, eastern Indonesia and Papua New Guinea.

Tracy Haslam Named President, Harris CapRock Communications

Melbourne, Fla., January 20, 2014 — Harris Corporation has named **Tracey Haslam** president of its Harris CapRock Communications business. She reports to Jim Morris, group president, Harris Integrated Network Solutions. The business will now be headquartered in Houston.

In this role, Haslam is responsible for leading Harris CapRock, the premier global provider of managed satellite and terrestrial communications solutions specifically for remote and harsh environments including the energy, government and maritime markets. Harris CapRock owns and operates a robust global infrastructure that includes teleports on six continents, five 24/7 customer support centers, local presence in 23 countries and more than 275 global field service personnel supporting customer locations across the Americas, Europe, Africa and Asia Pacific.

Haslam has more than 25 years experience leading businesses and teams in markets ranging from off-shore oil exploration and production to defense, technology, and after-market services. Most recently she was vice president and general manager of Harris CapRock's energy business. She joined Harris from Honeywell, where she was vice president, strategic markets for Honeywell Process Solutions. Previously Haslam served in a variety of international assignments at Honeywell in general management, strategy, marketing, sales, and business development and successfully grew international and domestic businesses in the energy sector.

Tracy Haslam

Haslam received a bachelor of science degree in mathematics and engineering from the University of Adelaide in Australia and a master's degree in business administration from INSEAD in France.

JB Perrette Promoted to President of Discovery Networks International

Silver Spring, Md., January 16, 2014-- **Discovery Communications** announced that **JB Perrette** will become the next President of Discovery Networks International. Perrette takes over for 23-year Discovery veteran Mark Hollinger, who announced his resignation in Sep-

tember.

JB Perrette

Perrette will oversee the company's international business with current regional and functional leaders Dee Forbes, President and Managing Director, Discovery Networks Western Europe; Kasia Kieli, President and Managing Director, Discovery Networks Central & Eastern Europe, Middle East and Africa; Henrik Ravn, President and CEO, SBS Discovery Media Nordics; Henry Martinez, President and Managing Director, Discovery Networks Latin America/U.S. Hispanic; Arjan Hoekstra, President and Managing Director, Discovery Networks Asia-Pacific; Doug Baker, EVP and Chief Financial Officer, Discovery Networks International; Luis Silberwasser, EVP and Chief Content Officer, Discovery Networks International; Tom Keaveny, President, International Affiliate Sales; and John Honeycutt, EVP and Chief Operating Officer, Discovery Networks International, reporting to him.

Since joining Discovery in October 2011, Perrette has built best-in-class digital and technology organizations helping to establish Discovery's industry-leading presence in the digital media field. With Perrette at the helm, Discovery has become a leading provider of high-quality nonfiction media across all screens. Perrette and his team led the successful acquisitions of Revision3 and DeFranco Creative, strategic investments in Lumosity and Learnist, the launches of digital/online networks Animalist and TestTube, and the implementation of innovative live online experiences such as SKYWIRE LIVE and Animal Planet L!VE.

Sean Atkins will serve as the acting head of Discovery's Digital business as the company performs an internal and external search for its next Chief Digital Officer. In addition, the IT/EOS teams, led by Kevin Loftis and Larry Laque, will now report to Andrew Warren, Chief Financial Officer of Discovery Communications.

Prior to joining Discovery, Perrette spent 11 years with NBCUniversal, where he most recently served as President, Digital and Affiliate Distribution, and Content Distribution Strategy, leading North American distribution of television and film content across platforms. He also helped launch new digital channels Sleuth (now Cloo), Chiller and Universal HD and played a leadership role in developing the industry-leading digital venture, Hulu. Perrette's previous roles at NBC Universal included CFO of NBC Universal Cable, CFO of Bravo Media, and VP of NBC Business Development. Before joining NBC in 2000, Perrette was a member of General Electric's top leadership development program based in London, and at CS First Boston in London and Tokyo.

ITC Global Names Jean-Michael Rouylou Executive Vice President of Americas and Maritime Solutions

Houston, Tex., January 15, 2014-ITC Global announced that it has named **Jean-Michel Rouylou** as its new Executive Vice President of Americas and Maritime Solutions. The move comes as the company expands its organization and establishes its Americas regional headquarters in Houston, Texas.

Over the past several months, ITC Global has made significant investments in its Americas operations, including a new office in Houston and upgraded teleport and network facilities in its New Orleans location. The company also recently added a number of industry veterans to its Americas organization including Steven Newstead, as Vice President of Americas Sales and Michael Neugebauer as Vice President of Americas Operations. Both will report to Jean-Michel, in his new capacity as EVP of Americas.

Jean-Michel Rouylou

The new Americas headquarters in Houston joins existing regional headquarters for Europe Middle-East Africa based in Yverdon, Switzerland and regional headquarters for Asia Pacific based in Perth, Australia.

As Executive Vice President for the region, Jean-Michel Rouylou is responsible for customer service, sales, operations, and financial performance across all vertical markets served in the Americas. Jean-Michel has been with ITC Global for over two years, serving as the Senior Vice President of Maritime Solutions. He will continue to serve as the company's senior executive in charge of maritime business, as he takes on the new role. His background includes over 20 years of service with Schlumberger, the world's largest oilfield services company. During his tenure, Jean-Michel served in a variety of senior level roles including Vice President of Global Communications. He also brings extensive international experience in the energy industry, having lived abroad on assignment for Schlumberger in Singapore, the United Arab Emirates, Nigeria, France, the United Kingdom and the United States. Mr. Rouylou holds a degree in Mechanical and Electronics Engineering from Ecole National Superieur des Arts et Metiers in Paris.

MTN Appoints Santos Venegas to Head Oil and Gas Group

Miramar, Fla., January 15, 2014 – MTN Communications (MTN) announces **Santos Venegas** has joined the company as general manager for its Oil and Gas Division. A 35-year industry veteran and respected consultant, Santos most recently served as managing director for Latin America at Harris CapRock.

Santos Venegas

Prior to that role, he was director of Corporate Development at Harris CapRock. Serving the company for 28 years, Santos held various roles growing the organization and managing business development, operations, special projects and service delivery. Prior to Harris CapRock, Santos held various technical roles in the oil and gas sector at Bibbins & Rice and Brown & Root. In his new position at MTN, he will take the division's strategy forward, further strengthening its operations and services position in the market.

MTN is a global provider of maritime communications and content services. Since launching the first stabilized satellite antenna for ships at sea in the early 1980s, MTN has been pioneering remote connectivity technologies that become longstanding solutions. Today, the company serves most of the world's cruise lines, as well as hundreds of yachts, commercial ships, oil and gas vessels, and military aircraft, ships, vehicles and facilities. MTN Nexus, the company's next-generation communications ecosystem, is the first hybrid C-/Ku-band and broadband wireless network that is delivering content with land-like speeds to vessels at sea.

O'Brian McKinley Joins Encompass Media as VP-Business Development, Government Solutions

Atlanta, Georgia, January 14, 2014 Encompass Government Solutions, a division of Encompass Digital Media, announced today that **O'Brian McKinley** has joined the company as Vice President, Business Development. McKinley will concentrate on developing and expanding the company's relationships within the government sector. McKinley will be based in Atlanta but will primarily work in Washington, D.C. to assist senior government and DoD clients realize new opportunities and solutions.

"With over 30 years of government and commercial broadcast experience, O'Brian is an important addition to our organization," said Ed Horowitz, Co-CEO of Encompass. "His understanding of media distribution along with his expertise in IPTV, VOD, OTT and VoIP further enhances the capabilities of the Government Solutions team and allows us to significantly increase our service offerings."

O'Brian McKinley

McKinley most recently served as Globecomm's Senior Director – Media, Entertainment & Broadcast Business Development where he specialized in the delivery and implementation for an array of international networks. Prior to Globecomm, McKinley was Director of Network Operations for PBS in Alexandria, VA where he managed the day-to-day operations of the network including studio production, post production and program delivery. In addition, McKinley managed and designed on-air broadcast entities for CNN, Turner Broadcasting, The Nashville Network and CBS.

SIA Elect 2014 Executive Committee

Washington, D.C. January 14, 2014- The **Satellite Industry Association (SIA)** announced the election of its 2014 Executive Committee. The SIA Board of Directors elected **Bill Weller** of Space Systems/Loral (SSL) to serve as Chairman for the coming year, joined by **Stacy Fuller** of DIRECTV, as Vice Chairman, and **Jennifer Mann**er of EchoStar, as Treasurer.

Bill Weller is Vice President, Marketing and Sales at SSL, where he leads technical and business teams that work with U.S. and international satellite operators to design and procure customized new geostationary communications satellites.

Stacy Fuller is Vice President, Regulatory Affairs at DIRECTV. In this position, she is responsible for overseeing DIRECTV's federal regulatory issues impacting DIRECTV. Prior to joining DIRECTV in 2005, Fuller was Media Legal Advisor to former FCC Commissioner Abernathy.

Jennifer Manner is Vice President, Regulatory Affairs at EchoStar. Prior to joining EchoStar, Manner served as Deputy Chief of the Office of Engineering and Technology and before that Deputy Chief of the Public Safety and Homeland Security Bureau of the FCC. Before that, Manner was Vice President of Regulatory Affairs at MSV. Previously she served as senior counsel to FCC Commissioner Kathleen Q. Abernathy.

Worldwide Pay-TV Subscribers to Reach 1.1 Bil. by 2019

Singapoore, January 22, 2014--Worldwide pay-TV market reached 903.3 million subscribers in 2013, generating US$ 249.8 billion in service revenue. IPTV operators enjoyed significant growth (18.5% YoY) in 2013 to 92 million subscribers with a total of $37.2 billion in service revenue.

Globally, the Pay-TV market is expected to grow to 1.1 billion subscribers with US$ 320.3 billion in service revenue in 2019

"Increasing FTTH subscriber base and bundled subscriber base of telcos are boosting the IPTV market. ABI Research forecasts that the IPTV subscriber base will grow to 161 million subscribers in 2019 accounting for 15% of overall pay-TV market," comments Jake Saunders, VP and practice director of core forecasting.

The cable TV market grew at the slowest rate among different pay-TV platforms with only 3% YoY growth, ending 2013 with 570.2 million subscribers. Cable TV subscribers in Western Europe and North America declined around 1% and 1.5% respectively in 2013. However, cable TV markets in Asia-Pacific and Latin America continued to contribute to global cable TV market growth, which is expected to reach a total of 634.5 million subscribers in 2019.

The global terrestrial TV market reached 9.5 million subscribers at the end of 2013. A declining pay DTT subscriber base in Italy and Spain had an impact on the overall Western European DTT market which dropped around 5% in 2013.Unlike Western Europe, the DTT market in Africa grew a remarkable 45% to 2.1 million subscribers in 2013. "As African countries start to switch over to digital, digital terrestrial TV has become an affordable alternative to satellite TV service in the region. ABI Research forecasts that Africa will have over 4.8 million DTT subscribers in 2019," adds Khin Sandi Lynn, industry analyst.

DirecTV maintains its largest market share in terms of pay-TV service revenue. The company had around 20.2 million subscribers in the US with an ARPU above $102 by the end of 3Q-2013. Globally, the pay-TV market is expected to grow to 1.1 billion subscribers with $320.3 billion in service revenue in 2019.

ABI Research's new "Pay TV ARPU and Revenues" Market Data is updated quarterly and profiles global pay-TV subscription information. Detailed market trends and market forecast information for key regions and countries around the world are provided where available. The study is a part of the company's Pay TV Research Service.

Indian Satcom Market to Grow 6% per year

Paris, France, January 23, 2014- According to Euroconsult's new report, "India Satcom Markets 2014", India's satellite communication sector has experienced significant growth over the past five years driven by explosive demand from DTH Pay-TV platforms and growing telecommunication needs in the country.

The satcom value chain is strongly influenced by the Indian Space and Research Organization (ISRO) that is present all along the satcom value chain including for satellite manufacturing, launch, satellite operations, regulations and partially for services.

On the manufacturing level, roughly half of the country's satellite manufacturing sector spending is currently dedicated to developing communications satellites. "While ISRO dominates the satcom manufacturing landscape, outsourcing to foreign and national companies will continue to provide growth opportunities for a number of players with hundreds of millions of dollars to be outsourced from 2013-2021," said Deepu Krishnan, Senior Consultant at Euroconsult.

Satellite capacity demand from DTH broadcasting grew at a CAGR of over 7% from 2008-2013, now representing 32% of the country's total commercial satellite capacity usage. TV distribution services to cable operators and VSAT enterprise networks have equally seen growing demand in recent years, leading to an increasing number of players now operating in the country's teleport and VSAT service market.

In particular the cellular backhaul market has begun to see strong take-up in India with the arrival of HTS systems such as IpStar, but also government backed networks connecting schools, remote villages, etc., are currently growing with increasing capacity needs. Alongside satellite services, the annual

satellite ground equipment market has also seen growth, generating $40 million in equipment revenue in 2012, dominated by international ground terminal manufacturers.

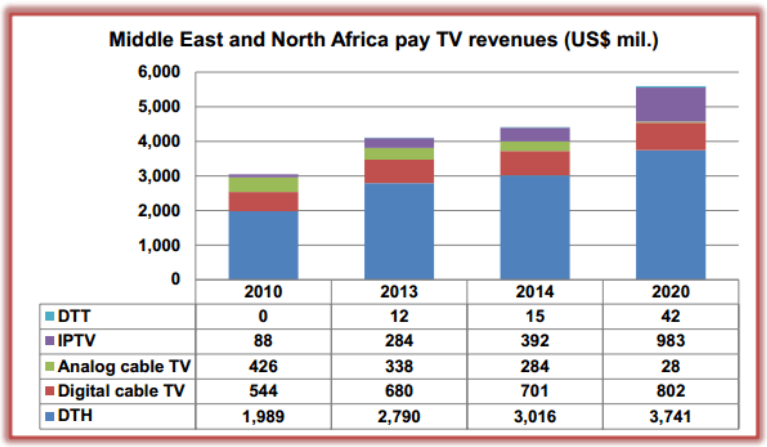
While domestic operator ISRO/Antrix enjoys significant regulatory advantages in the market, only a proportion of the commercial demand for satellite capacity is being met by domestic capacity today, with the majority being provided by foreign satellite operators. Regulatory barriers and capacity supply constraints still challenge market growth.

Satellite capacity demand from DTH broadcasting in India grew at a CAGR of over 7% from 2008-2013, now representing 32% of the country's total commercial satellite capacity usage.

"Changes in the country's satcom policy, which is expected to be released in 2014, should bring positive changes and contribute to additional growth in satcom markets over the coming years, in particular for services using Ku-band capacity from foreign operators," said Krishnan. In total, demand for regular C- and Ku-band capacity is expected to grow at 6% p.a. between 2013 and 2023 in addition to new demand for satcom services using HTS systems that should see strong take up towards the end of the decade.

Pay-TV Thriving in the Middle East

UK, January 22, 2014--Pay TV revenues in the Middle East and North Africa will grow by more than 83% between 2010 and 2020 to US$ 5.60 billion, according to a new report from Digital TV Research. The Digital TV Middle East & North Africa Forecasts report states that Turkey and Israel are expected to contribute 52% of the region's pay TV revenues in 2020 total. From the US$ 1.49 billion pay TV revenues to be added between 2013 and 2020, Turkey will supply US$ 359 million, Egypt US$ 362 million and Saudi Arabia US$ 257 million. Revenues in Israel will fall by US$ 56 million over this period due to greater competition.



	2010	2013	2014	2020
DTT	0	12	15	42
IPTV	88	284	392	983
Analog cable TV	426	338	284	28
Digital cable TV	544	680	701	802
DTH	1,989	2,790	3,016	3,741

Source: Digital TV Research Ltd

Satellite TV will continue to dominate pay TV revenues, taking two-thirds of the 2020 total (similar to the 2013 proportion). Satellite TV revenues will reach US$ 3.74 billion in 2020, up by US$1 billion on 2013 and nearly double the 2010 total.

The third edition of the Digital TV Middle East & North Africa Forecasts report is 185-pages long – 20% larger the previous edition. The third edition contains full forecasts for 21 countries – up from 16 countries in the second edition.

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CABSAT 2014 in Alliance with NAB to Showcase New Features

CABSAT, the leading professional content management event in the Middle East, Africa and South Asia (MEASA), has inked an alliance with the USA's National Association of Broadcasters Show (NAB Show) which will see the world's two biggest industry show brands in their field collaborate on a world-class content management conference programme covering the latest trends, technologies and innovations in the global broadcasting and media market.

The CABSAT-NAB Show conference program will roll-out alongside a range of additional new features, technology demonstrations, knowledge exchange platforms and themed exhibiting zones – such as the Content Delivery Hub, a sector focused on Over The Top (OTT) technologies delivering 'anywhere, anytime' digital and video content - at CABSAT's milestone 20th anniversary show - running 11-13th March at Dubai World Trade Centre (DWTC).

Run over the show's first two days, the conference program will feature daily keynote speeches, state-of-the-art industry reports and technical programs, as well as panel discussions focusing on the latest trends and developments shaping global and regional markets. Sessions will also address the industry's global transition to digital broadcasting, how these developments affect the digital media and entertainment landscapes, as well as potential avenues to monetise multi-platform services.

"In-line with CABSAT's wider modus operandi, our partnership with NAB Show will provide context for major international content management providers eyeing opportunities to accelerate the future development of MEASA's content management markets," said Trixie LohMirmand, Senior Vice President, Exhibitions & Events Management, DWTC, organiser of CABSAT. "This new development underscores CABSAT's 20-year commitment to deliver the greatest return on investment for our global exhibiting communities and increase their engagement with MEASA's leading decision-makers in the creation, management and delivery of entertainment and news content," added LohMirmand.

The CABSAT-NAB Show collaborative conference program will, firstly, leverage NAB Show unparalleled Stateside network of industry-shapers and, secondly, assist NAB Show to realise its global strategy of enabling its association members, exhibitors and suppliers to explore and execute new business opportunities in rapid growth regions embracing new media technologies and digital solutions.

With profit revenues from mobile penetration rates amongst the world's highest, rapidly increasing deployment of satellites, tremendous growth of Free-to-Air TV channels and huge investment in locally-produced media content, MEASA is viewed as a major growth territory for international production houses.

With 20 of the region's most innovative providers exhibiting from turn-key pods, the Content Delivery Hub - a sector focusing on Over The Top (OTT) technologies that facilitate the delivery of video or digital content via internet protocol and purpose-built platforms for 'anytime, anywhere' consumption - will also feature an open-air presentation theatre for live demonstrations.

Additionally, the Content and Studio Hub – providing live-feeds, alerts, blogs, social media updates and onsite interviews – will be streamed throughout the show via CABSAT TV.

Elsewhere, the CABSAT Global Meetings Program – an exclusive platform for exhibitors and pre-registered visitors – will give show attendees access to a targeted, senior community of MEASA's leading content management buyers, partners and suppliers.

CABSAT 2014 will bring together visitors from 110 countries and more than 900 exhibitors for a three-day event combining all aspects of the broader media and satellite spheres including: Acquisition & Production, Pro / Broadcast Audio, Management Systems, Post-Production, Content & Communication, Distribution & Delivery, Satellite & Communications and, all-new for next year, Connected Devices.

For more information go to: www.cabsat.com

The West Coast's Premier Space Event Return to Long Beach

The Space Tech Expo exhibition and conference brings together global decision-makers involved in the design, build and testing of spacecraft, satellite, launch vehicle and space-related technologies.

Leading the West Coast space and satellite industry, Space Tech Expo is where end-users connect with solution providers; a platform for specifiers and buyers to meet manufacturers and the supply chain for civil and commercial space.

Now in its third year, the 2014 event will welcome more exhibitors than ever before, including ATK, Boeing Technology Services, United Launch Alliance, Sierra Nevada Corporation and many more industry leaders. The full list can be found on the event website.

Attending the Space Tech Expo exhibition is completely free and the visitor benefits are extensive.

FULLY INTEGRATED EXHIBITION HALL

Covering satellite systems, launch vehicle and spacecraft design, engineering, testing, and all facets of the manufacturing supply chain, the exhibition will help your company to effectively reach a highly targeted audience with a pre-established and growing need for your company's technology and service offerings.

NEW BUSINESS OPPORTUNITIES

Industry interest in emerging spacecraft technologies is at an all-time high. The time is now to capitalize on the new market era of expanded private-sector applications and opportunities

NETWORKING

Structured networking and organized social activities are built directly into the event to ensure maximum interaction between technical conference delegates, invited guests, exhibitors, and attendees.

In addition to the exhibition, Space Tech Expo 2014 features a three-day conference entitled *Space – The New Reality* which explores how budget constraints continue to impact **commercial, military/DoD** and **government** space sector spending on space; the entire value chain must adjust to working in a new reality.

The conference brings together scientists, engineers, C-level executives, government representatives, policy makers, space agencies, military and entrepreneurs to debate the key challenges and opportunities in civil and commercial space. Influential speakers include;

- Col. Scott Beidleman, Director, Development Planning, **SMC / US Air Force;**
- Rich Pang, Senior Director, Hosted Payloads, **SES Government Solutions;**
- Skot Butler, Vice President, Satellite Networks & Space Services, **Intelsat;**
- Capt. Jacob Hempen, Engineer, **United States Air Force, GPS Directorate, Los Angeles** ;
- Andrew Santangelo, Small Sat Technical Committee Chair, **AIAA AFB;**
- Jim Simpson, President, **Boeing Satellite Systems International;**

A pass for all 3 days booked before February 24 is just $495. The full list of speakers and detailed pricing information can be found on the event website.

Space Tech Expo also offers free learning opportunities for all exhibition attendees through our free *Open Tech Forum* workshops, covering a variety of industry topics. This unique approach ensures that your time away from the office pays dividends and is both money and time well spent.

Register to attend and book your conference delegate pass today at www.spacetechexpo.com

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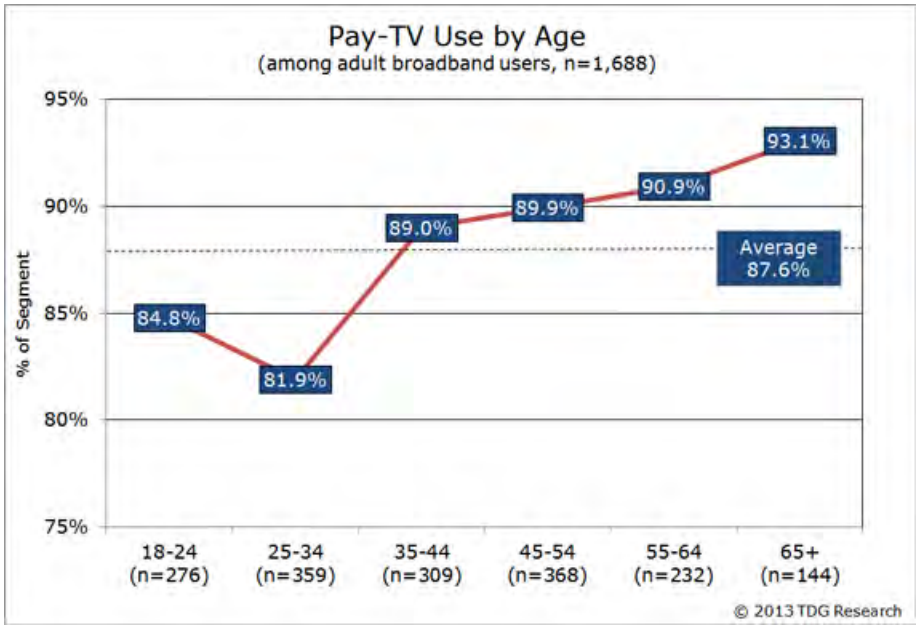
Vital Statistics

88% of U.S. Broadband Users Subscribe to a Pay-TV Service



According to data released by The Diffusion Group, nearly nine in ten adult broadband users in the US subscribe to an incumbent pay-TV service such as cable, satellite, or telco-TV. The use of such services is greatest among adults 35 and older and less among younger adults.

"The notion that we're on the edge of a 'mass exodus' from incumbent pay-TV services to online substitutes is not supported by the data," notes Michael Greeson, co-founder of TDG and director of research. "Today, 88% of adult broadband users subscribe to an incumbent pay-TV service, a rate that has held relatively steady for the last 12 months."

Advertisers' Index

The Satellite Markets 25 Index™

Company Name	Symbol	Price (Jan. 31)	% Change from Last Month	52-wk Range			% change from 52-wk High
Satellite Operators							
Asia Satellite Telecommunications	1135.HK	30.00	1.52%	26.85	31.35	↓	4.31%
Eutelsat Communications S.A.	ETL.PA	22.51	-2.17%	20.41	28.15	↓	20.02%
APT Satellite Holdings Ltd.	1045.HK	9.79	4.82%	2.82	10.76	↓	9.01%
Inmarsat Plc	ISAT.L	700.50	-7.71%	80.01	784.00	↓	10.65%
SES GLOBAL FDR	SES.F	23.883	1.37%	20.81	25.00	↓	4.47%
Satellite and Component Manufacturers							
The Boeing Company	BA	125.26	-8.99%	74.25	144.57	↓	13.36%
COM DEV International Ltd.	CDV.TO	4.09	9.95%	3.28	4.40	↓	7.05%
Lockheed Martin Corporation	LMT	150.91	2.62%	85.88	158.43	↓	4.75%
Loral Space & Communications, Inc.	LORL	74.35	-6.53%	56.53	82.13	↓	9.47%
Orbital Sciences Corp.	ORB	24.45	5.57%	14.01	25.52	↓	4.19%
Ground Equipment Manufacturers							
C-Com Satellite Systems Inc.	CMI.V	1.6700	0.60%	0.69	2.37	↓	29.54%
Comtech Telecommunications Corp.	CMTL	30.42	-3.49%	22.65	33.65	↓	9.60%
Harris Corporation	HRS	69.34	0.09%	41.08	72.33	↓	4.13%
Honeywell International Inc.	HON	91.23	0.78%	68.39	92.15	↓	1.00%
ViaSat Inc.	VSAT	59.51	-2.73%	37.78	73.43	↓	18.96%
Satellite Service Providers							
Gilat Satellite Networks Ltd.	GILT	4.6600	-0.43%	4.09	6.20	↓	24.84%
Globecomm Systems Inc.	GCOM	14.10	0.00%	10.49	14.91	↓	5.43%
International Datacasting Corporation	IDC.TO	0.1200	-14.29%	0.11	0.25	↓	52.00%
ORBCOMM, Inc.	ORBC	6.90	11.47%	3.40	8.21	↓	15.96%
RRSat Global Communications Network Ltd	RRST	8.7263	6.55%	6.97	9.35	↓	6.67%
Consumer Satellite Services							
British Sky Broadcasting Group plc	BSYBY	58.15	4.38%	46.45	62.02	↓	6.24%
DIRECTV	DTV	69.43	0.56%	47.71	73.44	↓	5.46%
Dish Network Corp.	DISH	56.38	-2.47%	33.79	58.55	↓	3.71%
Globalstar Inc.	GSAT	2.0300	16.67%	0.26	2.07	↓	1.93%
Sirius XM Holdings Inc.	SIRI	3.5800	0.28%	2.95	4.18	↓	14.35%

INDEX	Index Value (Jan. 31)	% Change from Last Month	% Change Jan. 03, 2014
Satellite Markets 25 Index™	1,641.99	-4.03%	-4.03%
S & P 500	1,782.59	-2.66%	-2.66%

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