

Industry Trends, News Analysis, Market Intelligence and Opportunities

Scaling OTT and TV Everywhere Distribution

	by	Dan	Freyer
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atellite has traditionally been the main multi- models, this approach simply doesn't scale." point linear video content distribution techhome.

moves into the level of service required for linear OTT distribution and advertising-based business

nology to broadcast and cable, and direct-to- Unplanned traffic surges, such as from live linear OTT and TV Everywhere are proliferating events and news can stress the terrestrial CDN.

using broadband web distribution technology. How will OTT/ IPTV/ TV Everywhere market development affect the media industry's use of satellite, and satellite services going forward?

The rapid growth of the OTT/ IPTV/ TV Everywhere market presents a tremendous opportunity for satellite, according to some industry operators. A recent Digital the satellite industry. TV Research Global



Linear Mass scale

uct manager, Intelsat, "The Internet and conven- bandwidth via terrestrial wire line technology to tional CDN infrastructure is a powerful tool for the distribution of OTT media. But as the industry



The rapid growth of the OTT/ IPTV/ TV Everywhere market presents a tremendous opportunity for

According to Myslinksi," Satellite, through its highly efficient point-tomultipoint distribution capability, combined with a private managed network, brings the types of service attributes that the new level of OTT distribution calls for in order to provide large scale, high quality, reliable content delivery."

SES executives also see a continued role

fixed OTT video revenue will reach US\$ 42.34 billion Sabbagh, President and CEO, of SES suggest that the in 2020, more than double the revenue projections huge bandwidth challenges of delivering HD quality OTT video will require as much as four times the peak bandwidth, and thirty-five times the data The Terrestrial Network Challenge: Live, transfer per TVHH per month compared to today's figures. SES white papers cite Cisco predictions of 100-fold increases in household consumption. SES According to Mark Myslinski, senior principal prod-predicts that the network costs to deliver this

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From the Editor

A Sobering Reminder



O ctober was a bad month for the commercial space industry. First, Orbital Sciences' Antares rocket blew up seconds after launch on a supply mission to the Space Station. This was followed a week later by the crash of Virgin Atlantic's SpaceShip Two craft killing its co-pilot and seriously injuring the pilot.

No doubt, the latest mishap of SpaceShip Two will further delay the first commercial flights to space which were originally scheduled this year. There has been much anticipation on the launch of the commercial space tourism industry as it might lead to new opportunities in expanding the space industry, much as commercial aviation has done when it first took off over a hundred years ago.

The accident serves as a grim reminder that space development comes at a cost. It must also be noted that even after 100 years of development, the commercial aviation industry lost over 400 passengers this year alone.

The commercial development of space is a long road fraught with many risks and challenges. Nothing comes easy in this industry, but the reward s are there for those who dare.

Vigil Lahder

Virgil Labrador Editor-in-Chief



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Cover Story

OTT and TV Everywhere ... From page 1

function of bandwidth and subscriber growth, while "broadcast-able" file and linear content can be beamed to millions of satellite DTH receivers for a fixed cost, regardless of the number of subscriber sites. Therefore, the most effective solution will be a hybrid network that uses satellite's broadcast features for one-to-many traffic. This is similar to the classic case for satellite DTH vs. cable.

SES says such hybrid satellite-terrestrial solutions are not only viable, but also working today, and cites the case of its Germany subsidiary HD+, and its SAT-IP technology, which creates a Wi-Fi system connected to a satellite IP receiver in the home. Rather than invest the US\$ 150 Billion required to upgrade terrestrial networks, satellite can provide the broadcast data overlay as part of a hybrid satellite-terrestrial infrastructure. For this to happen, a full value chain and "ecosystem" involving the satellite, equipment, mobile and terrestrial network players must be formed. According to SES, such an ecosystem offers benefits to stakeholders across the value chain.

Distribution and Other Challenges for Programmers

Cross-platform viewer measurement has been a challenge point for TV programmers, because mobile and tablet viewing, now a recognized portion of viewership, nave not been included in mainstream programming viewership ratings, for example in the trendsetting U.S. market. The issue of how mobile, tablet, or multiplatform viewers should count towards TV ad time is by no means settled, nor do programmers have a uniform approach to ad insertion on different platforms. However, measurement companies such as Nielsen are working with TV broadcasters to create ratings systems to better

devices.

Physical Distribution Side Technical Challenges

Dave Bartolone is Sr. VP Technology for Vubiguity, a provider of multiplatform video services, using both satellite and terrestrial means. As a program distributor, he says, "We face the same challenges as most in a world of quickly evolving consumer technologies. These include, first, the lack of a standard set of ABR (Adaptive Bit Rate) profiles, which leads to the support of an infinite number of variations. Secondly, there are variations in packaging methods (HLS, Smooth Streaming, HDS) and devices that accept these packing Finally, Variations between types. major Studios on IP device requirement and subsequent quality restrictions (SD/HD) based on the ability to meet those requirements."

From his perspective at global satellite operator and service provider, Intelsat, Myslinksi offers a similar view of the challenges based on input from its customers. "Intelsat has long recognized that one of the biggest challenges facing our media customers is the need to distribute in multiple formats for the growing multi-screen environment," he says. "In addition to our satellite services, Intelsat has built the IntelsatOne® terrestrial network, which includes managed services based upon fiber, fiber plus satellite, and teleport services. One example of supporting the multi-format environment is the deployment at many of our largest media customers of edge nodes on our IntelsatOne® network. The end result is that we can deliver any content that our customer needs to distribute, in any format."

"Ultimately, we believe that satellite, combined with the current infrastructure, will also facilitate new targeted advertising opportunities for media

consumers would increase as a linear monetize viewership via multi-screen companies by transporting and distributing customized broadcast-quality linear streams to multiscreen devices," says Intelsat's Myslinksi. "We expect a combination of satellite and the current infrastructure to deliver personalized linear streams containing targeted advertising to devices via OTT." This requires satellite to devise network solutions that have different processing capabilities and equipment that are much closer or as part of last-mile networks. In the case of OTT, Intelsat will continue to evolve its services to efficiently transport and distribute the many different media formats for the multi-screen environment.

> Behind Intelsat's expectation that the growth of the OTT/IPTV will expand its market, are what Myslinski says are clear indicators that traditional linear advertising-based television will be viewed on multiscreen devices. In his assessment, satellite has the unique attributes needed to supplement terrestrial infrastructure limitations in the ability to meet media companies' increasing requirements for large scale, broadcast-quality, linear content. By adding efficient capacity provisioning and management, and transparent caching, and enhancing its network capability at the edge, Intelsat will enable satellite to more flexibly support the many different types of media formats needed for OTT distribution, he says.

Threats and Opportunities

On the distribution side, TV Everywhere viewing is creating a huge indirect pull effect on satellite bandwidth demand for video traffic; however, this is coming not directly from broadcasters, but rather through the broadband mobile providers in emerging economies, as they build more 3G/4G/and LTE type cell networks and look extend their broadband base stations via satellite circuits. Growth in demand for bandwidth has been significant and expected to continue to surge for this

Gazprom Space Systems – Russian satellite operator

Service zone - whole Eastern hemisphere







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application, according to 2014 studies from industry analysis firms such as NSR (www.satellitemarkets.com/ market-trends/satellite-backhaultrunking-and-video-offload-presentvaried-opportunities-over-next-d); however, some TV programmers believe their corporate internal trend will be to move off satellite in favor of media delivery via a Content Distribution Network (CDN)-based cloud model, using service providers such as Akamai for content delivery in mature markets.

time," says Vubiquity's Bartolone. "Linear is being put on our 10G backbone and affiliates provide their own bandwidth to connect. With VOD, we still push files out. So for now, multicast satellite is still beneficial and does not take up that much transponder space. VOD head ends are switching to Aspera delivery however, and the big guys (Comcast, TWC, ATT) have switched already," he added. Aspera, an IBM company, provides software for large file and multimedia delivery over web, CDN and cloud systems.

Vubiquity recently introduced its next generation platform, AnyVU Cloud, which was built to support advanced services such as TVE and OTT. "With AnyVU Cloud, we are able to offer a broad set of modular services that include a deep library of licensed content for both linear and on-demand, set-top box delivery and direct-to-subscriber streaming, and electronic sell through." savs Bartolone."We designed our AnyVU Cloud platform with this in mind and built it to manage the increasing content volumes, formats and profiles that prove so challenging today, as well as to handle new formats and profiles as they arise," he added.

Straddling Satellite and CDN Delivery

Vubiquity works with every major studio, many independent film studios, and the leading broadcast and cable networks in North America. Straddling the satellite linear and non-linear file delivery worlds, it delivers services in over 15 languages and in every format used in the world today.

In addition to its US nationwide transport of over 300 MPEG-4 mainstream linear channels used by its cable and telco affiliates as a video overlay to existing services, the company transports "Because of the reach and multicast 30,000 hours a month of multicast file-based capabilities of satellite, most of our VOD content worldwide for a customer base core file based workflows will remain comprised of over 550 Service Providers and on satellite. Our linear services how- over 460 Content Providers globally. According ever, mainly due to the economics, will to the company, Vubiquity is the only provider, migrate to terrestrial delivery over that supports a linear MPEG-4 distribution platform serving over 100 telco and cable affiliates.



Dave Bartolone

Vubiguity recently introduced its next generation platform, AnyVU Cloud, which was built to support advanced services such as TVE and OTT. "With AnyVU Cloud, we are able to offer a broad set of modular services that include a deep library of licensed content for both linear and ondemand, set-top box delivery and direct-to-subscriber streaming, and electronic sell through," says Dave Bartolone, Senior VP-Technology of Vubiguity. "We designed our AnyVU Cloud platform with this in mind and built it to manage the increasing content volumes, formats and profiles that prove so challenging today, as well as to handle new formats and profiles as they arise," he added. ×

Feeding A Bigger Pie

While there are concerns that in developed regions OTT and "cord cutting" (consumers replacing subscription cable or DTH with IPTV/OTT services) could erode linear channel market economics, one area where OTT is directly generating revenue today for satellite services is in video backhaul and live event services. An excellent example of OTT tying into satellite requirements is Encompass Digital Media's service for the Association of Surfing Professionals (ASP). Encompass serves broadcasters with media capture, management and distribution services via its broadcast facilities around the world.

to-end OTT solution including on-site YouTube." production, fly packs, satellite uplink,

international downlinking to multiple teleports, signal capture for live streaming, encoding and distribution to YouTube (ASP's CDN). Chris Myers, EVP, Global Occasional Services for Encompass, says, "In this instance, satellite is complementary with OTT and TV Everywhere due to the length of the event varying from hours to days. Events can go ten days at a time consuming a huge amount of satellite capacity, and because we are distributing to Asian, North American and European satellites simultaneously around the globe via three Encompass teleports, traditional broadcasters such as ESPN and Fox Sports Australia can take the feed off satellite. The customer in this example had a great need to reach the niche market of their audience base, Encompass provides ASP with an end- which has a huge online following on

Cover Story

New Service Opportunities

How do players expect the continued growth of Web distribution/OTT to affect the satellite-based media distribution and transport business? Service providers who can take the broadcast experience and apply their competency and reliability to the streaming side of the business should be well-positioned to profit from new OTT/IPTV applications. For media transport companies, the investment in facilities upgrades can be modest, for example, adding streaming encoders and implementing new workflow management and processes.

Encompass' Vincent S. Lyons, SVP, Digital Media/Content Services, says "OTT creates a new distribution platform for niche programming that didn't exist before for programmers who were unable to attain traditional distribution. Its value-add is an additional path for the existing TV programmers to engage the consumer on their IP device in their pocket or on their kitchen table. In addition, this allows an avenue for new programmers to enter the market place and provide another source of distribution." Based on workflows, Encompass has developed an OTT product stack designed to support 24/7 live streaming, which can use satellite and fiber, occasional use live streaming, OTT VOD storefront and Virtual Linear. By way of example, a company like Classic Arts whose Virtual Linear product can mix and match all of these features for distribution in different formats. "Traditional satellite is tied into the OTT and TV Everywhere platforms," explains Lyons. "If you are streaming your channel via IP, and depending on the programing rights, it could either be a TV Everywhere or OTT service. The key difference is based on programming rights," said Lyons.

Ohad Har-Lev, President at RRSat America, part of RR Media, a global provider of media delivery services, agrees that OTT is creating new demand, and adds to satellite markets. "I



RR Media's playout center in Tel Aviv, Israel. (photo: RR Media)

shares the perspective that today's higher bandwidths from the field. media customers want more than just a linear playout and satellite or fiber According to Encompass' Chris Myers, distribution feed.

playouts for versioning to many differcontent to many venues to monetize the content. You need to be able to prep content for all the new platforms, HD and SD for broadcast, iTunes, VOD, etc. Today's end-user is multi-screen and we need to reach MSOs, and outlets such as NetFlix, iTunes, Hulu, You-Tube and programmers' own websites. We do hundreds of titles a week to iTunes, Netflix, etc. and it is not just pure satellite or fiber anymore. Once you have a need for so many media format," said Har-Lev.

Bandwidth Hunger

OTT and Web video are driving more more affordable than ever. demand for satellite contribution ser-

think it's complementary," says Har- vices, improved SNG efficiencies with IP Lev. "If you want a full-scale distribu- and better signal modulation technolotion you are going to need satellite. gies. These enhanced requirements are But some smaller, newer customers feeding the appetite for more bandcan only afford the Internet distribu- width. The flexibility of video over IP tion. OTT feeds are much less money, systems, combined with high-def picbut the quantities can add up." He also tures has helped to fuel the hunger for

"We're seeing an increase in demand for event-based IP over satellite be-"Today, you need a lot of different ser- cause people want to utilize applicavices in the media business, complex tions such as streaming live and file transfer directly from the field. We're ent venues, and you have to send the seeing the market demanding highspeed broadband Internet in very remote locations. Typically, we receive requests for bandwidth from 5 Mb/s to over 100 Mbps from the field. Until now, it has been difficult for us to achieve those kinds of upload and download speeds over satellite, but there are now some products on the market which make it possible to do this more reliably and with smaller aperture dishes, providing a more costeffective service," added Myers. Sateland formats, you have lots of content lite RF and modem technology providpreparation work, to change and re- ers such as Newtec, NovalSat, and Comtech, among others, have continued to push advances in modulator performance, making very high data rates from SNG systems easier and

and Comtech, among others, have continued to push advances in modulator performance, making very high data rates from SNG systems easier and works. In the case of OTT, Intelsat will New York City, we can expect that satmore affordable than ever.

Big Changes in Store

Satellite has consistently enabled the reliable transport and distribution of broadcast quality content and has successfully adapted its business models to meet media customers' evolving needs (e.g. the transition from SD to HD and now to 4K), say operators. New high-throughput-satellite systems combined with new spectrum at Kaband promise up to ten times the bandwidth efficiency of traditional "bent-pipe" architectures, and will more than triple the capacity on orbit compared to just a few years ago.

"Ultimately, we believe that satellite, combined with the current infrastructure, will also facilitate new targeted advertising opportunities for media companies by transporting and distributing customized broadcast-quality linear streams to multi screen devices," says Intelsat's Myslinksi. "We expect a combination of satellite and the current infrastructure to deliver personalized linear streams containing targeted

Satellite RF and modem technology advertising to devices via OTT." This the many different types of media forsolutions that have different processing says. capabilities and equipment that are much closer or as part of last-mile net- As we head to CCW/Satcom 2014 in many different media formats for the -to-multipoint content distribution multi-screen environment.

> Behind Intelsat's expectation that the plications can be supported via hybridgrowth of the OTT/IPTV will expand its satellite networks. It should be noted market, are what Myslinski says are that satellite is not being positioned for clear indicators that traditional linear the future OTT and multi-platform seradvertising-based television will be vices as a "bypass" technology, rather viewed on multi screen devices. In his as a network element with advantages assessment, satellite has the unique when combined with terrestrial sysattributes needed to supplement ter- tems. This positioning in the total value restrial infrastructure limitations in the chain is one where satellite's exclusivity ability to meet media companies' in- in providing and end-to-end services is creasing requirements for large scale, reduced. We can expect that issues broadcast-quality, linear content. By around the interdependence of sateladding efficient capacity provisioning lite with terrestrial systems, both and management, and transparent around technology and business modcaching, and enhancing its network els will be increasingly important in capability at the edge, Intelsat will en- media services via satellite. able satellite to more flexibly support

providers such as Newtec, NovelSat, requires satellite to devise network mats needed for OTT distribution, he

continue to evolve its services to effi- ellite companies will continue to show ciently transport and distribute the how satellite is the most effective point means for traditional media, and also how OTT, IPTV and TV Everywhere ap-



Daniel Freyer is the Principal of AdWavez Marketing (www.ADWAVEZ.com), a marketing agency serving the satellite industry. Since 1990, he has worked with leading spacecraft and ground equipment manufacturers, satellite operators, services providers, broadcasters, associations and event producers to grow the businesses and brands. He can be reached at dan@adwavez.com.



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HTS and VSATs

by Elisabeth Tweedie, Associate Editor

put Satellites (HTS) but less attention is paid to Spacenet last year. the knock-on effect that this is having on the VSAT industry. Figures from Comsys presented by Simon As would be expected, the dramatic increase in numbers of Bull at the recent VSAT 2014 conference in London, graphi- VSAT customers, has created economies of scale not seen cally showed, that of the approximately 3.5 million sites in before in the industry, and consequently has led to downservice well over half of those are now consumer sites. As ward pressure on terminal prices, that have already been would be expected with the success of Hughes and ViaSat falling for many years. the vast majority of these are in North America. That market grew by a whopping 36% last year adding 400,000 new The impact from high throughput satellites is not confined sites. In contrast, the enterprise market grew by 6% glob- to the price of the terminal. Innovations in the hub are

e hear a lot about the growth in High Through- complete contrast, Gilat - who do not own a satellite, sold

ally. Asia Pacific and Latin America led this growth at 13%, needed to efficiently provide this service. At the forefront

followed by Europe and Africa at 8-9%, but there was no growth at all. in North America or the Middle East.

This dramatic rise in the consumer segment has inevitably had a knock-on effect elsewhere in the industry. Traditionally, as well as "selfbeing bv operated" large enterprises, such as Walmart



of this, is iDirect, with a 57% market share, and who are providing the ground infrastructure for Inmarsat Global Express.

From an architecture point of view, two of the fundamental differences between high throughput

High Throughput Satellites with its multiple spot beams, frequency re-use and other benefits are impacting the way VSAT networks are designed.

and Exxon, VSAT networks have been run by satellite opera- satellites and traditional wide beam satellites are the multitors, telcos and multiple independent service providers, ple spot beams covering an area, and the fact that the hub not changing very much as far as the large enterprise seg- beam. There may be one, or, more usually, more than one ment is concerned, it's a very different case for the Small and Medium Enterprise (SME) and Small and Home Office for example, would be within a single beam and therefore sumer broadband service is available. Independent service satellite, those same 500 sites may be located in multiple providers in these regions are seeing those customers migrate to the "closed" service provided by the satellite operators (who in the case of Hughes and ViaSat are also the hardware suppliers) themselves. Historically, Hughes and High Throughput Satellites basically come in two variants: Gilat (through its former Spacenet subsidiary), have both the closed system model, such as that offered by ViaSat and been service providers as well as hardware manufacturers. Hughes in North America, Tooway from Eutelsat in Europe With the launch of Spaceway and Jupiter (Echostar XVII), and YahClick from YahSat in the Middle East and Africa, and

such as SpeedCast, EMC and Signalhorn. While things are or gateway needs to be located in a separate feeder link gateway. So, whereas with a traditional satellite, 500 sites, (SOHO) segment, located in regions where a satellite con- be served by one line card in a hub, with a high throughput beams and therefore require multiple line cards, so increasing the cost to the service provider.

Hughes established itself at all points in the value chain. In the open system model, such as that offered by Avanti and

SES in Europe and Epic from Intelsat. In the former, the satellite operator owns and operates the entire infrastructure from the satellite to the customer terminals. In the latter the satellite operator owns and operates the satellite and service providers lease the capacity in either MHz or Mbps and/or provide the end user service. There are various business models that can be used for this. The Service Provider may co-locate its hub with the teleport, or the satellite operator may own the hubs and service providers buy bandwidth or simply re-sell a pre-determined package.

iDirect's solution to this, for service providers, was to create a universal flexible hub that integrates into the terrestrial IP backbone and has the ability to connect with any frequency satellite, and any architecture: spot beam or traditional wide beam. This enables the service provider to maintain its existing service using traditional wide beam satellites, and also offer a high throughput service from the same hub. It also gives them the flexibility to add line cards as service requirements change or demand increases, so costs increase as business increases. Use of this flexible hub would also allow a satellite operator to "rent out" space in the hub for service providers to insert their own line cards. i.e. the service provider becomes a Virtual Network Operator (VNO).

During a panel at Satellite Business Week, in Paris last September, the service providers all acknowledged the need for the exclusive rights to MSA-T for satellite user terminals. change. Ted Hengst, CEO of Artel commented that the service providers needed to think of themselves as network companies and provide the full service including cloud storage. Abel Avellan, CEO of EMC agreed, saying that in time everything on land, would become a hybrid service. Pierre-Jean Beylier, CEO of Speedcast echoed the "full service" sentiment, saying that in the maritime sector customers parts. The surface of the antenna has thousands of elewere keen to outsource everything to one provider.

Like the service providers, iDirect is also very aware of the more efficient, and, at least in theory, cheaper to produce in need for the satellite industry to move away from its niche status and start to emulate the rest of the telecom industry. To that end it is now hiring staff from the telecoms industry between different satellites or track a moving satellite such to learn from their approach.

The market for consumer VSAT terminals is pretty much a Most of Kymeta's antennas are designed for the mobile duopoly between Hughes and ViaSat, who between them market, but there is also a design for a fixed antenna. Due have over a 95% share. The enterprise market is more di- to the switching and tracking capability of this antenna, it vided but Hughes still dominate with a 45% share. Gilat and can be used for any orbit – geostationary or otherwise. iDirect have 23% and 17% respectively. Improvements have Mass production of these antennas could significantly help occurred in the in the supporting hardware and software, the economics of consumer broadband. Currently, although but the antennas themselves have hardly changed since service providers do offer self-install antennas, most instalthey were first introduced. Until now. Intellectual Ven- lations involve a truck roll. Eliminating the need for accutures, a company that works with developers around the rate pointing makes a self-install a much simpler proposi-



Kymeta's mTenna™ products simplify satellite connections needed for instant broadband service anywhere in the world, including mobile applications such as planes, trains, boats, and automobiles. (photo courtresy of Kymeta)

world to bring new products to market, came up with Metamaterials Surface Antenna Technology (MSA-T). Kymeta was created as a spin-off from Intellectual Ventures and has Theses antennas are very different.

The antennas that Kymeta has developed are flat and rectangular. Totally unlike a traditional VSAT or maritime antenna. These antennas use the metamaterials technology to steer the beam towards the satellite with no moving ments that can be individually activated to generate a holographic beam tuned to a satellite. The antenna is lighter, large quantities than traditional antennas. Using software to modify the pattern, the antenna can be used to switch as O3b.

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tion.

Another product, is a transportable Ka-Band antenna, about the size of a large lap-top computer. This was designed for journalists and others that need quick access where there is no fixed infrastructure in place.

For mobile markets – maritime, aeronautical, vehicle etc., Kymeta's antennas offer the flexibility of a phased array antenna without the associated high power requirements or use of mechanical gimbals. and it is working with Inmarsat to provide an antenna for corporate jets, using the Global Xpress satellites.

Last year the company was awarded a contract to develop antennas for O3b, and in June it announced that it has entered into a strategic relationship with Sharp that will enable the company to start large-scale production. Initial rollouts, which will be Ka-Band antennas, are scheduled for March 2015, but full scale mass production isn't scheduled until the second half of 2017.

For now Kymeta is focusing on the ground – but it already has loftier ambitions, and is thinking about antennas on the satellites themselves - specifically the new breed of

smallsats that have come into being in recent years. Eliminating the need for mechanical steering, not only reduces the weight, but also the increases the life of the satellite.

Unsurprisingly, in June of this year, Kymeta was named one of the world's most disruptive and innovative companies for the second year in a row by CNBC in its Disrupter 50 list.



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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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Coming Soon: A Day Without Satellites

by Lou Zacharilla

scary. It is a "Back to the Future" kind of thing, and one of those movies that makes you think deeply about some- of a new industry-wide international lication, are joining us. thing you take for granted each and every day. It is guaranteed to keep you up at night or wake you up in the middle of it thinking, "What IF it happens??" "A Day Without" works because it is so close to the truth. Check that, it IS the truth. It seems so real. This film is for the entire family, so I would bring the kids and if you are a teacher, the entire class. I would especially bring those kids who have no interest in science, technology or the poetry which is embedded in daily life. It is especially made for those with a low GQ (gratitude quotient). Business people, especially CIOs and companies with large communication needs will go back and rethink their network and content management strategies after the titles run at the end of this one too. In fact. I would recommend this film to anyone who likes to use the Internet, watch television, fly in an airplane, avoid death (at least for as long as possible), run countries and eat. I would advise it for the entire human race, beginning with those whose businesses touch the global satellite industry in even a remote way.

I definitely recommend it to you.

So you have now gone to your Smartphone and searched the web, or sent a text to a friend, and found out that this movie does not exist. OK. I made it all up. (Isn't that what Hollywood is all about??) It is the movie and story that I want to make and have actually begun to collect stories from around the to make. But "A Day Without" is not world www.bettersatelliteworld.com.

mong the new horror movies "...With threats to spectrum and the need for persistent industry that you must check out this growth, SSPI decided it was time to use some of our funds, resource holiday season is dandy one and sponsors' funds to tell a compelling story and to let prospective called "A Day Without." It is really very customers know about the satellite option"

campaign that SSPI, in association with

other industry trade associations, in- In the weeks and months ahead you cluding ESOA, has launched as part of a will read about satellite-driven, global sustained campaign that catalogues the events, such as Intelsat's global distrienormous contributions of satellite bution of the Live Earth benefit contechnology to human welfare, the cert, which raised awareness of the economy, peace, security, mom, dad, need for urgent action on climate apple pie, prom dates and everything. change and how satellite was behind The campaign is part of a long-term the possibility. You will read about the project called, Making the Case for Gates Foundation and how polio's Satellite, which is designed to raise eradication depended on GPS. You will awareness of satellite as one of the hear from George Clooney (who really world's t essential communications has made a movie) on his decision to industries and platforms. The whole use satellites as a core tool to reveal idea is my brainchild and, through the the Sudanese government's hard work of the team and board at crimes. The "Satellite Sentinel Project," SSPI, a consortium of associations will which relies on DigitalGlobe satellites, attempt to bring the satellite plat- is yet another of the types of stories we form's indispensable role in the global rarely tell the world, which often woneconomy to light.

You know that the satellite industry's In this column you will read "back and role in so many aspects of our daily lives has been hidden for a long time. With threats to spectrum and the need recognized that a day without satellite for persistent industry growth, SSPI decided it was time to use some of our funds, resource and sponsors' funds to This is a crowd-sourced story. tell a compelling story and to let prospective customers know about the at: satellite option. There have been sporadic initiatives and thoughtful videos in this effort, including those Boeing and the National Society of Professionals Engineers. We are going to pick-up on these and keep the item going forward. We have created a new website designed to promote the campaign and pure fiction. It is the underlying theme Influential media leaders, like this pub-

war ders what the heck we actually do.

forths" with people who make the world better. Period. These folks have would be the ultimate horror show.

So please send your stories or links to me makingthecase@sspi.org or to LZacharilla@sspi.org



Lou Zacharilla is the Director of Development of the Society of Satellite Professionals International (SSPI). He can be reached at: LZacharilla@sspi.org

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It's your career. It's your industry. Help us make them better.

SSPI is now distributing surveys for The Workforce Report, a study to reveal an in-depth portrait of the satellite industry workforce across multiple countries, industry sectors and disciplines. We are doing it in partnership with *SpaceNews* and *Satellite Markets & Research*, two of the leading global news sources for space professionals.

To take the survey, go to www.SSPI.org/?WorkforceRept



For more information on the Society of Satellite Professionals International, visit

www.SSPI.org







Case Study

IF Switching Solution for NOAA

by Virgil Labrador, Editor-in-Chief

tific and environmental matters. Its mission is "to vital role in every aspect of the NOAA satellite mission. understand and predict changes in climate, weather, oceans and coasts, to share that knowledge and information with The matrix systems had to be expandable to allow future others, and to conserve and manage coastal and marine upgrades. When NOAA recently joined the GOES-R program, ecosystems and resources."

The National Environment Satellite, Data and Information upgraded the 48x96 IF matrix switch at Wallops to 64x128 Service (NESDIS) is dedicated to providing timely access to and supplied new L-band transmit and receive switching global environmental data from satellites and other sources systems. Two other NOAA sites also used ETL's equipment. to promote, protect and enhance America's economy, secu-

he National Oceanic and Atmospheric Administration built and provided two 48x96 Intermediate Frequency Dis-(NOAA) is a U.S. federal agency that works on scien- tribution Systems (IFDS) for its Wallops site, now playing a

> it needed to upgrade its satellite infrastructure and create cross-site compatibility. ETL won the contract again and

rity, environment and quality of life.

ETL Systems won a competitive RF matrix switching procurement with NOAA in 2007, and designed an expandable RF matrix system to technically meet the needs of NESDIS and its plans for future growth.



ETL's nine matrix switching systems developed for NOAA are used for the entire ground system and GOES series spacecraft. The satellite connectivity is critical to the continuity of operations and NOAA's ability to process weather images. NOAA's GOES ground system is considered a

NOOA's Wallops Command & Data Acquisition Station

NOAA to upgrade the equipment to be compatible with the rated into it must meet stringent requirements. For exam-GOES-R Series, the next generation of geostationary Earth- ple, GOES R data reliability is 99.998 per cent. observing systems. ETL is an experienced global designer and manufacturer of RF distribution equipment for satellite Result communications.

The Requirement

NOAA required high quality and expandable switching systems to receive and transmit important environmental, security and economical data and information. These systems would be critical to its primary RF site, the Wallops Command and Data Acquisition Station (WCDAS), since all Geostationary Operational Environmental Satellites (GOES) spacecraft signalling, for both uplinks and downlinks, would be routed through them. Reliable switching systems were The satellite data is used globally, with NOAA sharing its needed so as to not lose communications with the entire GOES spacecraft constellation, which are considered U.S national assets.

Solution

After discussing NOAA's specifications, ETL Systems custom

Since then ETL has recently won another contract with national critical system and therefore hardware incorpo-

The matrix switching systems, provided by ETL, enable NOAA's engineers to command the spacecraft imager to relevant sectors of interest in the event of severe storms, hurricanes and tornadoes, providing forecasters with a constant view, enabling life-saving decisions to be made. As well as saving lives, this capability for providing advanced storm warnings for the public, media, federal agencies, private sector and weather advisory services, helps individuals protect their property, and protects the U.S economy.

information with other countries such as Japan, India, Russia, members of the European Space Agency (ESA) and the UK Meteorological Office.

By choosing ETL Systems equipment, NOAA can maintain a reliable and secure satellite infrastructure, to protect the environment, national security and quality of life.

SIMULSAT 5B

The Most Technologically Advanced Multibeam Antenna System

INSURE

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- Back Up All Your Satellite Feeds

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Call ATCi today to learn more about the Simulsat 5B or Simulsat Replacement Program.



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Innovative Signal Quality Analysis from RF Design

ncreased network and signal reli- associated ability, quality of service as well as DVB accurate and stable signal perform- rameters. ance are crucial aspects for satellite The sy tem ground segment infrastructures such as is a scalteleports, earth-stations but also for able broadcasting- and broadband architec- quential tures and networks.

This not only includes the relevant toring arhardware and infrastructure but also rangement solutions for continuous monitoring, prompt detection of faults and overall and DVBS/ performance issues...all essential fac- S2), tors to maintaining customers satisfaction.

RF-Design, headquartered in Lorsch, monitoring applications. Germany is introducing an innovative enabling continuous monitoring but ments: also faults and performance to be identified quickly. Their new "SQA-16" represents a state-of-the-art broad- SMA(f) or 750Hm F(f). band remote signal quality analyzer (5MHz...3GHz) with 16 inputs for moni- • A broadband spectrum analyzer and a toring of maximum 16 RF signals and its DVB-demodulator module.

paseanalyzer and moni-(RF, DVB-C perfectly suited for remote



RF-Design's new SQA-16 Signal Quality Analyzer 16 port

broadband remote monitoring system The "SQA-16" consists of three ele- -software (CMS).

• A high-quality 16:1 RF switch, 500Hm



The corresponding carrier-monitoring

The "SQA-16" signal quality analyzer comes in a compact 1RU/19" rackmount design with all RF connectors at the rear also featuring 1:1 redundant dual power-supplies. All RF connectors are either 500hm SMA(f) or 750hn F(f), self terminated. A rear side ethernetinterface (RJ45) is provided for connection to the external PC or server. The integrated RF switch has an isolation between adjacent input ports of 80dB, ensuring that the integrity of measurements is not compromised and faithfully recorded. The embedded spectrum-analyzer module allows measurement and monitoring of the selected RF signal levels and channel frequency while various DVB relevant parameters (DVB-C, DVB-S/S2) can be monitored via the front-side inserted DVB demodulator module.

The carrier-monitoring-software (CMS) continuously scans all switch input ports on sequence and measures the specified parameters for every channel on that input port while a single measurement mode allows to select an individual RF port and a specific channel on that port can be measured as required.

Satellite Executive Briefing





Specifications

- 1RU/19" Rack-Mount Chassis
- 1:1 Dual Redundant Power-Supply
- Frequency Range 5MHz to 3GHz
- 16 Inputs (50 or 750hm), 80dB Isolation
- RF-Power Level 0dBm to -80dBm
- 100MBit Remote Interface
- 10MHz Reference External Input
- DVB-C, DVB-S/S2 Demodulator Option
- IP Streaming Output MPTS

- *RF-Parameter Measurement RF-Power, C/N, Bandwidth Carrier Parameter Measurement*DVB-C & DVB-S/S2 *Frequency & Channel-Power*MER & BER, Symbol-Rate
 QAM Constellation
 Network-ID & TS-ID
 Service-ID & Service-Type
- Service Provider

RF-Design • Marienburger Str. 3 • 64653 Lorsch/Germany • www.rf-design-online.de HQ: +49 6251 9389 85 • Sales: +49 361 7896 2340 • contact@rf-design-online.de features such as corrections for the the switch reference, switch port, ac- signals and DVB parameters is relevant, connecting cable losses and slope, test tual channel center frequency, channel it features optimal performance and point attenuation, alarm functions, level, RF power and bandwidth while significantly reduces space and costs measurement history, record/replay the DVB parameter measurement in- for remote monitoring applications. and print function, etc. Besides this the cludes data like frequency, channel CMS allows to integrate multiple "SQA power, MER, BER, symbol rate, QAM- Contact RF-Design to learn more about 16" units (remote sites) which can ind constellation, Network-ID, TS-ID, Se their new "SQA-16" (E-mail: vidually being selected and monitored vice-ID, etc. RF-Design's new "SQA-16" tact@rf-desgin-online.de/ from one central point (e.g. NOC). The is perfectly suited wherever accurate www.rf-design-online.de).

Furthermore the software has various CMS RF measurement data includes measurements and monitoring of RF

con-Web:

NRA RX – Spectrum Analyzer for Precise **RF Signal Monitoring**

spectrum analyzers, the NRA RX series. defined for simultaneous monitoring. The NRA units analyze RF frequencies up to 6 GHz in the frequency and time The demodulation capability of FM, mobile applications. The ASCII com-(zero span) domains with a resolution AM, USB, LSB and CW signals makes it mand interface makes it quite easy to down to 30 nsec. With its low noise RF possible to listen to the signal over an integrate into proprietary and commerinput module they provide receiver external headphone. The uncom- cially available control and monitoring capabilities. The new antenna control pressed data are being transmitted in systems. interface makes it possible to use the binary or ASCII format via the Ethernet NRA RX directly, via internal automatic interface and can be stored remotely. The NRA RX measurement modes in-

arda Safety Test Solutions is in- enabling analysis of very wideband -6000 RX (9 kHz – 6 GHz), both in a light troducing a new generation of RF channels. Up to 500 channels can be -weight (< 5kg, 11 lbs), fan-less, energyefficient (<20W) 1 RU format for operation even in the tightest spaces or for



fields when using Narda antennas.

Spectrum Analyzers specifically to support RF Monitoring and RF signal colinput supports precise synchronization.

Spectra are available with up to

analysis and classification.

Narda Safety Test Solutions has intro- The newly added antenna control inter- In the United States, Narda Safety Test directly for precise field measurements companies, and the US Government. without the need for adjustments.

600,000 frequency measurements and The NRA RX is available in two models: to www.agfranz.com/narda-satellite Resolution Bandwidths up to 32 MHz NRA-3000 RX (9 kHz to 3 GHz) and NRA

conversions, for monitoring and safety enabling the user to post-process the clude Spectrum Analysis, Multi-Channel measurements of electromagnetic recorded signals for in-depth signal Power meter, Level meter, scope and I/ Q data.

duced this second generation of NRA face makes it possible to use existing Solutions is distributed by A.G. Franz Narda antennas – directional antennas LLC, a small business providing specialas well as the three-dimensional anten- ized, high quality communications lection: the new RF module exhibits nas from the Narda safety program. equipment and business consulting superior phase noise and spurious per- Antenna factors and calibration data services to satellite, aerospace and fomance, the new 10 MHz reference are stored in the NRA or in the antenna defense, wireless, broadcast and cable

> more For information go



NRA-RX Series – Spectrum Analyzer

	Monitor
	Detect
	Record
Receiver 9 kHz up to 6 GHz	NRA-6000 RX
	Demodulate
	Classify

Install: 19", 1 RU, no fan, no noise Integrate: Ethernet for easy integration into the test environment and for remote control Operate: Application-oriented operating modes with bandwidths up to 32 MHz

- RF Signal collection and interference monitoring
- Demodulation and decoding
- Signal analysis and classification (SIGINT)
- Detection of illegal transmitters
- Satellite pointing and tracking, antenna peaking, and carrier monitoring

Sales in North America:



A.G. Franz, LLC Phone (800) 351-1894 narda-sales@agfranz.com www.agfranz.com/narda-satellite

Products and Services Market Place

A guide to key products and services to be showcased at SATCON 2014, New York City from November 12-13, 2014 and Africacom in Cape Town, South Africa from November 11-13, 2014.

ABS

@ SATCON booth # 609 @ Africacom booth # B2 www.absatellite.com



ABS is a young, dynamic and fast growing global satellite operator. ABS offers a complete range of tailored solutions including broadcasting, data and telecommunication services to broadcasters, ser-

vice providers, enterprises and government organizations.

ABS operates a fleet of six satellites; ABS-1A, ABS 3, ABS-4/Mobisat-1, ABS-6, ABS-7 and the recently launched ABS-2. The satellite fleet covers 80% of the world's population across Africa, Asia Pacific, Europe, the Middle East, CIS and Russia. ABS has also procured two Boeing 702SP satellites (ABS-3A & ABS-2A) planned for launch in late 2014 and 2015 with the options to add more satellites over the next 2 -3 years to its growing satellite fleet.

Headquartered in Bermuda, ABS has offices in the United States, Dubai, South Africa, Germany, Philippines, Indonesia, Malaysia, Singapore and Hong Kong. ABS is majority owned by funds managed by the European Private Equity firm Permira. The Permira funds acquired ABS in 2010. For more information, visit <u>www.absatellite.com</u>

Advantech Wireless @ SATCON booth # 415 @ Africacom booth # 24 www.advantechwireless.com

Advantech Wireless is the leading wireless broadband



Advantech Wireless

SMARTER SOLUTIONS, nications GLOBAL REACH. solution provider

commu-

for Commercial, Critical Infrastructure & Government and Military clients. Our smarter solutions give clients the freedom reach farther, to achieve reliable connectivity anywhere in the world, and accomplish critical missions of global significance. We design turnkey terrestrial and satellite communications solutions that maximize performance and minimize operational costs, all with uncompromising quality. With our customized approach, award-winning R&D and innovative engineering, we empower you to achieve excellence in communication, while you experience reduced CAPEX and OPEX overall.

The new Sapphire Series of UltraLinear[™] GaN technology based SSPAs and BUCs is the ultimate Solution for DTH

TV. With considerable reduction in size, weight and energy consumption the new SapphireBlu[™] Series of SSPAs and BUCs provide High Power, High reliability and Low intermod distortions. For the first time in the history of Satellite Communications, with this technology it became possible to saturate all transponders of the satellite with a single 13m antenna and a single amplifier per polarization.

Amos Spacecom @ Africacom booth # E10 www.amos-spacecom.com



Spacecom, operator of the AMOS satellite constellation, consisting of **AMOS-2 and AMOS-3** co-located at 4°W, **AMOS-5** at 17°E, and

AMOS-4 at 65°E. The AMOS satellites provide high-quality broadcast and communications services in Europe, Africa, Russia, Asia, the Middle East, & North America. With the launch of AMOS-6 to 4°W in 2015, enhancing coverage over Europe and the Middle East with its new Pan-European beam, Spacecom will further strengthen its position as a global satellite operator.

Spacecom's AMOS-4 satellite provides a full range of services to Southeast Asia, Russia and China. AMOS-6, planned for launch in 2015, will provide steerable Ku-band across Europe and the ME and high-throughput Ka-band coverage in Africa and Europe. Ku-band and Ka-band on AMOS-4 is now available.

ARABSAT @ Africacom booth # E12 www.arabsat.com



Founded in 1976, **ARABSAT** has been serving the growing needs of the Arab world for over 30 years. Now one of the world's top satellite operators and by far the leading satellite services provider in the Arab world, it carries over 450 TV channels, 160 radio stations, 4 Pay-TV networks and wide variety of HD channels reaching tens of millions of homes in more than 80

countries across the Middle East, Africa and Europe including an audience of over 170 million viewers in the Middle East and North Africa (MENA) region alone tuned into Arabsat's video "hotspot" at 26° East. Operating a growing fleet of owned satellites at the 20° East, 26° East, 30.5° East and 39° East positions of the geostationary orbit, ARABSAT is the only satellite operator in the MENA region offering the full spectrum of Broadcast, Telecommunications and Broadband services. This capacity will continue to expand with the launching of new satellites, making the ARABSAT satellites' fleet the youngest in the region.

ATCi @ SATCON booth # 825 www.atci.com



ATCi is a custom communications solutions provider specializing in commercial satellite communications systems and services including: the Simulsat multibeam, parabolic antennas, complete uplink systems/services, tele-

ports, 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 # 525 www.avltech.com

AvL Technologies' booth at SATCON 2014 will showcase our newest 2.0m Vehicle-Mount antenna for Military and SNG applications. This robust antenna features an AvLunique three-piece carbon fiber reflector with motorized folding hinged "wings" for automatic, compact stow width on mid-sized trucks, a high-stiffness azimuth bearing, our proprietary zero-backlash AvL Cable Drive, and a wide boom to allow for larger HPA envelopes. The antenna stows to a remarkable 50cm and is operated with AvL's new AAQ controller.

Also on display will be AvL's new 85cm Ka-band broadband vehicle-mount antenna with a cowling, and our 85cm Ka-band broadband FlyAway antenna. AvL's Kaband broadband antenna family is noted for its versatile configurations, high reliability and costeffective "go-to" solutions for mobile accessibility with High Throughput Satellites.

AvL will also show our newest 60cm and 2.4m Manual FlyAway antennas. These antennas are lightweight, compact, portable and robust with carbon fiber reflectors.



AVL's new 2.4m antenna

AvL antennas are the industry benchmark of excellence for mobile broadband Internet access, SNG, Disaster Relief, Oil & Gas Data Backhaul, and Defense & Homeland Security solutions.

C-COM Satellite Systems Inc. @ SATCON booth # 619 www.c-comsat.com

C-COM Satellite Systems Inc. is a leader in the development and deployment of commercial grade mobile satellitebased technology for the delivery of two-way high-speed Internet, VoIP and Video services into vehicles.

C-COM has developed a unique proprietary Mobile auto-deploying (iNetVu $^{\circ}$) antenna that allows the delivery of high

- speed satellite b a s e d Internet services into vehic l e s

while station-



ary virtually anywhere where one can drive. The iNetVu[®] Mobile antennas have also been adapted to be airline checkable and easily transportable.

C-COM Satellite Systems will be displaying the Next Generation, one-button auto-acquire antennas at IBC 2014. The iNetVu® FLY-98G Flyaway Antenna is a 98 cm satellite antenna system which is a highly portable, self-pointing, auto-acquire unit that is configurable with the iNetVu® 7710 Controller providing fast satellite acquisition within minutes, anytime anywhere. It can be assembled in 10 minutes by one person. The antenna is convertible from Ka- to Ku-band, and vice versa.

Crystal Solutions @ SATCON booth # 322 www.crystalcc.com



Crystal Solutions, a leading provider of Intelligent Control[™] for Network Management Systems and Spectrum Monitoring Solutions, announces it will dem-

onstrate its new Video Metadata Analyzer (VMA) at SAT-CON.

Crystal Solutions' VMA ensures metadata accuracy by capturing and logging video metadata, such as SCTE 104 and SCTE 35 messages, along the transmission path. VMA checks for the presence of metadata, assures it is properly formatted, and presents the analysis and details in human readable format. When issues are detected, the operator is alerted through multiple means.

Gazprom Space Systems @ Africacom booth # P74 www.gazprom-spacesystems.ru

Gazprom Space Systems (formerly Gascom) is a private commercial, non-governmental satellite operator based in



Russia. The main shareholder is Gazprom, one of the largest energy companies in the world. Gazprom Space Sys-PACE SYSTEMS tems' orbital fleet consists of four satellites under the Ya-

mal brand. Gazprom Space Systems' ground infrastructure consists of four teleports in the city of Moscow and in the surrounding Moscow region, which are connected to the main telecom backbones by means of fiber-optic lines. The company also has a wide network of earth stations across Russia.

In Russia Gazprom Space Systems is not only a satellite operator but also a service provider and system integrator. Within Russia, along with satellite capacity, it provides satellite services including satellite links, video distribution, Internet access and network development and management.

Globecast @ SATCON booth # 719 @ Africacom booth # P83 www.globecast.com

At SATCON and Africacom Globecast is introducing a single unique workflow to deliver all content preparation



services, including playout, VoD preparation, content formatting and creative services. The workflow will allow Globecast to more efficiently support broadcasters, ena-

bling them to manage and localise content for individual territories.

In addition to its worldwide presence in 15 countries, the Globecast's Media Factories - in Paris, London, Singapore and Los Angeles - will leverage the company's proven expertise in handling both linear broadcast and on-demand services. The Media Factory approach delivers dedicated operations management in close cooperation with clients and goes beyond traditional media management, logistics and playout services.

Globecomm Systems @ SATCON booth # 625 www.globecomm.com

Globecomm, is a leading global provider of managed network communication solutions. Employing our expertise



products, and network services enabling a complete end-toend solution for our customers. We believe our integrated approach of in-house design and engineering expertise combined with a world-class global network and our 24 by 7 network operating centers provides us a unique competitive advantage. We are now taking this value proposition to selective vertical markets, including government, wireless, media, enterprise, and maritime. As a network solution provider we leverage our global network to provide customers managed access services to the United States Internet backbone, video content, the public switched telephone network or their corporate headquarters, or government offices. We currently have customers for which we are providing such services in the United States, Europe, South America, Africa, the Middle East, and Asia.

Hunter Communications @ SATCON booth # 532 www.huntercomm.net

Hunter Communications was founded in 2002 as a sat-



ellite bandwidth and teleport provider. We work as an independ-COMMUNICATIONS ent agent, working with satellite network

service providers, US Gov't contractors and teleports worldwide, to support them with bandwidth procurement, analysis, and teleport facilities.

ND SatCom @ SATCON booth # 534 www.ndsatcom.com

With three decades of experience, ND SatCom has become the premier supplier of innovative satcom systems to support customers with critical operations anywhere in the world.

At SATCON, ND SatCom will be highlighting its new SKY-WAN 5G product. The SKYWAN modem family is a reliable,

flexible and versatile satellite communication platform for customer centric networks.



It is a bi-

directional MF-TDMA plus DVB system that supports voice, video and data applications in the most bandwidth efficient manner.

The new SKYWAN 5G unlocks new business opportunities for service providers. Total cost of ownership is significantly reduced thanks to the fact that only one type of device is needed for all roles in the network. This saves costs in terms of logistics, certifications, network configuration and maintenance. SKYWAN 5G enables star, mesh, multistar or hybrid topologies with Communications-on-themove (COTM) support. Each unit can act either as a hub or master station, therefore adding agility in terms of its network role.

Newtec @ SATCON booth # 416 @ Africacom B5 www.newtec.eu

Newtec will be showcasing at SATCON its new Dialog[®] platform. Dialog[®] is a new scalable, flexible and bandwidth efficient multiservice platform allowing operators to build

and adapt their infrastructure easily as their business and the satellite market grows and changes.

Newtec Dialog gives operators the power to offer a variety of service on a single platform while assuring the most optimal modulation and bandwidth allocation. In addition to supporting SCPC or MF

revolutionary patented return form consists of hub(s) and link technology called Mx-DMA[™]. Together with the scalable and can be confignew HighResCoding[™], it com- ured in different sizes to fit bines the best of both worlds and enables services to run HUB6501 1IF more efficiently than ever HUB6504 4IF Hub Modules. before over satellite.



-TDMA, it now includes a third The Newtec Dialog® platterminals. The Newtec Dialog Hubs are modular and the needs of customers. This picture shows the and the

RF-Design

@ Africacom send e-mail to: o.vogel@rf-designonline.de to arrange a meeting www.rf-design-online.de

RF-Design with headquarters in Lorsch, Germany is success fully developing, manufacturing and marketing pro-



solutions and Broadband Remote Spectrum-Analyzers.

Furthermore our company and team is well recognized for developing and providing custom-made products and solutions tailored to your individual needs and applications.

All our products are manufactured, tested & approved in our own facilities in Lorsch, Germany and characterized by superior quality, reliability and excellent performance while they are in operation with major Teleports, Satellite Earth-Stations as well as Broadcasting and Broadband facilities around the globe.

Meet us @ AfricaCom 2014 and we look forward to talking about your individual RF equipment needs. Just contact us to arrange a personal meeting (Phone: +49 361 7896 2340, E-mail: o.vogel@rf-design-online.de).

ScheduALL @ SATCON booth # 429 www.scheduall.com

ScheduALL, the leading global provider of Enterprise



Resource Management (ERM) software for the transmission and broadcast industries, will showcase ScheduALL Connec-

tor[™] and ScheduALL Portal[™], their self-provisioned booking technologies, at SATCON. Our self-provisioning systems streamline transmission companies' increasingly complex workflows while eliminating manual processing and human error.

ScheduALL Connector[™] unites ScheduALL systems across enterprises and supply chains, giving customers realtime access to their providers' resource inventories for selfprovisioned bookings. By unifying companies in a global business network, Connector eliminates manual booking, duplicate efforts, miscommunications and reservation conflicts from the booking procedure.

ScheduALL Portal[™] is a simple web-based wizard for making Occasional Use bookings, in real-time, directly into a transmission provider's system - while the unrivaled power and complexity of ScheduALL's transmission scheduling and conflict resolution works behind the scenes.

Walton De-Ice @ SATCON booth # 317 www.de-ice.com

Walton De-Ice, the world's leading designer and manu-



facturer of satellite earth station antenna (ESA) weather protection solutions - will showcase its latest Ka-Band satellite ESA weather protection solutions, Ice Quake, Rain Quake, and Snow Shield during SATCON 2014. "New Ka-Band satellite networks in

Europe and elsewhere offer huge capacity for 4K and future media services, but the potential signal degradation due to rain, snow, and ice pose new challenges at Ka-Band," says Walton De-Ice's David Walton. "Antenna de-icing and weather protection systems from Walton De-Ice can reduce signal loss through Ka-Band dishes, and improve the reliability and quality of content delivery services."

Crystal Solutions congratulates the 2014 Vision Awards winners

Be on the lookout in 015 2 for **Crystal Solutions' NEW VISION** as we continue our mission to SIMPLIFY complex NETWORKS



Simplifying Complex Networks[™]

crystalcc.com | 770.932.0970

2014 Vision Awards at SATCON

ow on its third year, Satellite ogy; Markets and Research will be Portal; and granting awards in three cate- Satmotion Pocket. gories to deserving individuals, companies and products in the satellite indus- The Most Promising Comtry.

The Vision Awards will be granted in Wireless. the following categories:

Awarded to an outstanding senior ex- growth. In addition to designing inno- ber 12, 2014 in New York City.

ScheduAll Integrasys'

pany of the Year wil be awarded to Advantech



Over the years, Advantech Wireless has will be honored during a reception Visionary Executive of the Year- experienced rapid and consistent ceremony at SATCON 2014 on Novem-The ecutive of a satellite company that vative products that have revolution- reception will be held from 5:30-7:00

demonstrated a keen sense of mission for his company and a forward-looking vision of where his company and the industry is heading.

Most Promising Company of the Year - Awarded to a company that has experienced growth in the markets they serve and demonstrated long-term viability of their enterprise.

Most the year that makes a

substantial improvement to existing ized the industry, it has made signifitechnology or performs a vital service.

The finalists for 2014 awards are:

Visionary Executive of the Year: Gary Hatch, CEO, ATCi Communications and Andy Start, President, Inmarsat Global Government.

Most Innovative Product or Service of

lision

Innovative Wael Al Buti (left) of Arabsat accepting the "Most Promising Product or Service of Company of the Year" award at last year's Vision Awards. With the Year - Awarded him are Dan Freyer, Principal of Adwavez Marketing and Bruce to a product or ser- Elbert, President Application Technology Strategy LLC, both vice launched during member of the Vision Awards Board of Judges.

> cant business acquisitions, adding to its strengths, global presence and depth of services. The two most notable strategic acquisitions were Nortel's microwave radio unit and Allgon, of Sweden. Coupled with ongoing product development, these acquisitions have given Advantech Wireless a complete portfolio for all facets of network support.

the Year: Newtec's Mx-DMA technol- The winners of the 2014 Vision Awards

pm at the Javits Convention Center in New York City.

You need to be registered as a participant at SATCON to attend the awards. To register for SATCON for free gо to: www.satconexpo.com VIP Quote Code: NY397 for a free expo hall pass.

The 2014 Vision Awards is presented by Satellite Markets and Research and Application Technology Strategy LLC and sponsored by Crystal Solutions.

The Vision Awards Board of Judges consists of Bruce Elbert, President, Application Technology Strategy LLC, Robert Bell, Executive Director of the SSPI and WTA, Elisabeth Tweedie, President of Definitive Direction, Dan Freyer, Principal, Adwavez Marketing, Jan Grøndrup-Vivanco, Director of Emerald Advisors and Tom van der Heyden, CEO of EurAsian Technology.

ORBCOMM Acquires Skywave Mobile Communicationsa

2014 – ORBCOMM Inc. (Nasdag: Inmarsat's support, provide ORBCOMM Inmarsat will jointly own the IDP tech-ORBC), a provider of Machine-to- with even broader global distribu- nology, which Inmarsat intends to Machine (M2M) solutions, announced tion. ORBCOMM will gain access to make available through its reseller that it has entered into a definitive new geographies in Eastern Europe and channel, and Inmarsat will acquire and agreement to acquire SkyWave Mobile Asia and diverse vertical markets such operate SkyWave's satellite network Communications, the largest M2M ser- as security and marine. The addition of assets located primarily at three Inmarvice provider on the Inmarsat global L- SkyWave's higher bandwidth, low- sat earth stations in Laurentides, Canband satellite network, for US\$ 130 latency satellite products and services ada; Burum, Netherlands; and Auckmillion. Based in Ottawa, Canada, Sky- that leverage the IsatData Pro (IDP) land, New Zealand for US\$ 7.5 million. Wave has more than 250,000 sub- technology also further expands the SkyWave and Inmarsat have previously scriber units, 400 channel partners, an breadth of ORBCOMM's solutions port- entered into a development agreement

estimated annualized US\$ 60 million in revenues and over US\$ 12 million in Adjusted EBITDA.

The acquisition of SkyWave furthers ORBCOMM's strategy to provide a ORBCOMM will acquire SkyWave on a ORBCOMM expects to make Skycomplete set of capabilities and options in the industry, while adding multiple synergies to strengthen its M2M solutions portfolio, according to the 122.5 million of which is to be in cash network of distributors. company. With the addition of Sky-Wave, ORBCOMM will have one of the largest combined engineering teams in the M2M industry and will gain significant economies of scale in operations and manufacturing. SkyWave's robust separate commercial agreement. Un- ceipt of required regulatory approvals. distribution channels in South America, der

New Rochelle Park, NJ, November 7, Asia and the Middle East, along with ORBCOMM (through SkyWave) and

)RBCDM

to create chipsets at lower price points that will support the expansion of IDP technology into mul-

folio.

provided by ORBCOMM and US\$ 7.5 million in the form of a promissory The acquisition, which has been unanithe commercial agreement,

tiple new vertical markets.

cash-free debt-free basis. Under the Wave's products available through Skyterms of the agreement, SkyWave will Wave's current channel, ORBCOMM's be acquired for US\$ 130 million, US\$ distribution channel and Inmarsat's

note to Inmarsat for a portion of its mously approved by the boards of diinterest in SkyWave, to be offset by a rectors of both companies, is expected payment due from Inmarsat under a to close in early 2015, subject to re-



TE Connectivity Completes Acquisition of Measurement Specialties Inc.

Shaffhausen, Switzerland, October 13, 2014 - TE Connec- our customers with tivity (TE) announced that it has completed the previously broadest range of connecannounced acquisition of Measurement Specialties, Inc.

Measurement Specialties, a leading global designer and manufacturer of sensors and sensor-based systems, offers a broad portfolio of sensor technologies including pressure, vibration, force, temperature, humidity, ultrasonics, position and fluid, for a wide range of applications and industries.

"The acquisition of Measurement Specialties establishes TE as a leader in the very attractive high-growth sensor mar- For reporting purposes, Measurement Specialties will be ket," said Tom Lynch, TE Connectivity Chairman and CEO. included as part of TE's Transportation Solutions segment. "TE's leadership in the connectivity market combined with Measurement Specialties' broad sensor portfolio provides

the tivity and sensor solutions in the industry. The acquisition of Measurement Specialties



expands TE's sensor business significantly, and builds on our strength in harsh environment applications. We look forward to offering our customers the most innovative solutions for their connectivity and sensor needs, and welcoming the talented team from Measurement Specialties to TE," he added.





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Executive Moves

Speedcast Appoints Johnson SVP for the Energy Sector

Hong Kong, October 23, 2014 – Speed-Cast International Limited, announced that Keith Johnson has joined Speed-Cast as Senior Vice-President / General Manager in charge of Energy services globally. In this role, Johnson will over-

see all of SpeedCast's business activities for Energy the sector focusing on Oil and Gas, including strategic planning, program management, busi-

ness devel-



Keith Johnson

opment and global sales for SpeedCast.

Prior to joining SpeedCast, Johnson was Harris CapRock Corporation's President of the Global Energy Services Division where he achieved growth for the company's energy revenue and was part of the team that completed the acquisition of Schlumberger's GCS division.

Johnson is a member of the Satellite Industry Association, NOIA, ENTELEC, and author of many published papers on a variety of topics: Telecommunication, Satellite, Wireless and IT. He attended Texas A&M University and graduated from the Houston Baptist University, double major in Marketing and Management.

TrustComm Appoints Two Senior Sales Executives

Stafford, Va., October 21, 2014 – TrustComm Inc., a small-business provider of assured satellite communications solutions to government and commercial organizations, announced it has expanded its global sales organization with the appointment of experience industry executives Michael Abad-Santos and Joe Apa.

Abad-Santos has been named Trust-Comm's Chief Commercial Officer and Apa has been named the company's Vice President, Global Sales.

As Chief Commercial Officer, Abad-Santos leads TrustComm's growing worldwide sales organization. For the past 10 years he held senior salesmanagement positions with Inmarsat and Stratos Global. In those posts, he managed global sales teams meeting the demanding mobile satellite requirements of numerous government agencies and commercial organizations. Mr. Abad-Santos was instrumental in improving Stratos' annual sales revenues exponentially over five years, and nearly doubled Inmarsat's Global Government business in just two years.

From TrustComm's new UK office, Apa leads TrustComm's market expansion efforts in Europe, the Middle East and Africa (EMEA). His 25 years' experience in the satellite industry, most recently as the Vice President of Mari-



Michael Abad-Santos

time Sales Asia at Inmarsat, also includes several senior sales management positions with Stratos Global and Scientific-Atlanta. While at Stratos, Apa helped establish its EMEA business from a start-up to more than \$30 million in five years. In an expanded role as Director, Enterprise and Government for UK and Americas, he oversaw revenue growth of more than \$15 million over three years. More recently, Apa was responsible for overseeing the success of Inmarsat's Global Maritime Retail business, achieving record sales of more than US\$ 210 million in 2013.

Gilat's Wavestream Appoints Past President and Co-Founder James Rosenberg as CTO

San Dimas, Calif., Oct. 14, 2014--Wavestream, a wholly-owned subsidiary of Gilat Satellite Networks Ltd., providing solid-state power amplifiers for mission-critical defense and broadcast satellite communications systems, announced the appointment of Wavestream past President and cofounder James Rosenberg as CTO.

Before rejoining Wavestream, James Rosenberg held senior engineering positions in his native state of California. His most recent position was at Comtech Xicom Technology, where he was responsible for the development of solid-state microwave amplifiers; and previously at Broadband TelCom Power, Inc., where he managed the development of sophisticated electronics systems. Prior to that, he cofounded Wavestream and served as company President for almost seven years. Before founding Wavestream, Rosenberg managed the MicroDevices Laboratory at NASA's Jet Propulsion Laboratory and served as Director of Engineering at GPD Optoelectronics.

With a PhD in Electrical Engineering from Columbia University, an MSEE in Electrical Engineering from the University of California, Berkeley, and a BSc in Engineering from Brown University, Rosenberg held full-time faculty positions at Brown University and Harvey Mudd College, and was a Visiting Professor at Caltech, before beginning his career in the private sector.

Yau Chyong Lim Appointed Chief Commercial Officer of MEASAT

Kuala Lumpur, Malaysia, October 1, 2014 – MEASAT Satellite Systems Sdn. Bhd. announced the promotion of Yau Chyong Lim from Vice President, Business Development and Strategic Planning to Chief Commercial Officer.

Executive Moves

In his new role, Yau will oversee MEASAT's Sales & Marketing and Network Engineering & Operations divisions, focused on building the MEASAT customer base and ensuring delivery of ser-

vices. As a mem-



ber of MEASAT's Executive Committee, Yau will continue to support the development of the group's overall strategy, according to the company.

Yau originally joined MEASAT in 1996. run the Naval With more than 18 years' experience in the satellite communications Yau has wide-ranging experience across sales & marketing, business development and commercial operations.

Yau holds an MBA in Finance from Keele University, Staffordshire, UK and a BSc in Microelectronics & Physics from Campbell University, North Carolina.

Vocality Appoints Susan Harvey as CEO

Surrey, UK, October 1, 2014-- Susan Harvey, formerly CFO at Vocality, is moving to the position of CEO. Harvey joined Vocality in 2009. She replaces founding shareholder Julian Bradford, who is stepping down as CEO.

As CFO, Harvey was responsible for Vocality's ISO certification, increased profitability, and securing the breakthrough fund from Santander. Moving into the CEO role, Harvey will give increased focus on new market exploration and internal investments in engineering and sales.

After 19 years at Vocality, Bashford is stepping down from his position as CEO. Julian will continue to be involved on the board, as a major shareholder as well as handling marketing and brand development. Outside of Vocality, Julian will be working on a number of projects including a charity and a start- for Thales Avionics. Paul also served in up media business.

Vocality also announced the hiring of Paul Hutton as Chief Commercial Officer from Sept 29, 2014. Paul will focus on growing the global sales and support teams in line with the expanding market opportunities.

Yau Chyong Lim Hutton previously served at different times as both the Head of the CSC UK Public Sector business and the Head of Sales and Marketing for that business.

> Additionally, Hutton has Satcom business for As-EADS trium, and has been instrumental in setting up

The Mobile

Channel/Research Now (a mobile phone advertising/market research business). He has run program delivery

Susan Harvey

the British Army reaching the rank of Lt Colonel.

MTN Builds Houston Team to Focus on Oil and Gas Market

MIRAMAR, Fla. - November 3, 2014 -MTN Communications announced it is building a business development and technical team in Houston in response to 20 percent year-over-year growth in Oil & Gas vessels served.

Santos Venegas, general manager, and Keith Morgan, senior sales engineer, have joined the MTN Oil & Gas Business Unit from Harris CapRock. Ту Garner, business development executive, has joined from Telemar.

"Building our Houston team is one more investment in the Oil & Gas sector as we serve an unprecedented number of the most data-intensive customers in the industry," said Errol Olivier, MTN CEO.

SSPI Launches Survey for the Workforce Study

New York City, November 4, 2014 - The Society of Satellite Professionals International (SSPI) launched a global employee survey of the satellite workforce: the industry's first multi-company, multinational study of industry demographics, qualifications, compensation and engagement.

SSPI invites satellite professionals around the world to contribute to the study by visiting www.sspi.org, selecting "Industry Growth" and clicking on the "Workforce Study" icon, or going direct to www.sspi.org/?page=WorkforceRept.

"Like all technology businesses, the satellite industry is in a global war for talent," said executive director Robert Bell. "You can't win a war without intelligence. Many of our companies do an outstanding job of talent management, but they are doing it in isolation. That prevents the industry from seeking collaborative solutions, and inevitably keeps workforce issues lower on the management priority list than they should be," Bell added.

SSPI is conducting the Workforce Study in partnership with SpaceNews and Satellite Markets & Research, two of the leading global news sources for space professionals. The study will create the first objective source of information on the demographics, qualifications, mobility, compensation, attitudes and engagement of the satellite industry workforce. It will also identify workforce issues with impact on the industry's success and raise their profile at the C-Level of companies. The study will be released in February 2015.



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Earth Observation Satellite Investment and Demand to be **Driven by Emerging Markets**

Paris, France, October 9, 2014 - According to Euroconsult's this represents newly published report, Satellite-Based Earth Observation: stagnant (0%) Market Prospects to 2023, 353 Earth observation (EO) satel- growth lites are expected to be launched over the next decade 2012 as the compared to 162 over 2004-2013. This will result in US\$ 36 impact of rebillion in manufacturing revenues over the period, an 85% duced increase over the previous decade.

Organizations from 41 countries are expected to launch EO effect. satellite capacity by 2023, compared to 33 over the previous decade. Government supply continues to grow strongly as The level of Deimos earth observation satellite more countries expand their portfolios of EO satellites to the U.S. demeet various policy needs. In addition, newcomers are fense outlay however disguises growth elsewhere in the launching EO satellite capacity to develop a local industrial base, create the building blocks for a space program, obtain greater autonomy in data acquisition, and/or meet local demand for data and services. As a result, investment in EO over the last five years. In order to meet this demand, comand meteorology programs reached a high in 2013 at US\$ mercial operators are successfully providing direct-access 8.7 billion, a 13% increase over 2012. This represents the satellite contracts to defense users. Emerging enterprise 8th year of continued investment growth, with EO remaining a primary concern for government space expenditures.

Commercial supply is also expected to go through a significant expansion, both from private sector initiatives (the In 2023 the market for commercial EO data is expected to expansion of fleets, and new entrants) and government reach \$3.6 billion (8% CAGR over 2014-2023). Regionally, commercialization of proprietary systems. New entrants the Asian markets, Latin America and Africa are expected to such as Skybox Imaging have launched their first satellites, have strong growth profiles with expected growth at over and others, particularly in the domain of commercial meteorology and environment monitoring solutions, could follow suit in the next decade. "With this expansion in commercial supply, differentiating positions of the operators will come to the fore, with trade-offs in ground resolution, revisit, geolocation accuracy, and data prices," said Adam Keith, Director of Space & Earth Observation at Euroconsult and editor of the report. "Nevertheless, competition is increasing and with new entrants possibly pricing data and solutions very competitively, there is the potential for disruption in the market," he added.

Commercial Data Stagnation Disguises Opportunities

Supply of EO solutions continues to expand and diversify despite an overall slowing of commercial data demand; this The majority of export activities to date have focused on slowing is a result of reduced U.S. government defense spending on commercial data compared to previous years. national industry and/or space program. Partnerships have The commercial data market totaled \$1.5 billion in 2013; been a successful mechanism to build up emerging manu-

from U.S. government spending takes



market, in particular in sales to non-U.S. defense users. The commercial data market to non-U.S. defense organizations totaled \$560 million in 2013 and has grown at a 14% CAGR markets are also expected to further develop, particularly location-based services and support to engineering and infrastructure projects.

10% CAGR to 2023. Natural resources management, engineering & infrastructure, and again defense are expected to be the main application areas supporting growth.

Manufacturing Export Opportunities to Increase

Satellites launched from emerging programs will account for a growing part of the manufacturing market. Between 2004 and 2013, \$1.9 billion of the total EO manufacturing revenues were derived from these programs; this is expected to increase to \$4.4 billion between 2014 and 2023. Such programs, which may lack proprietary manufacturing solutions, are expected to be a key driver for the upstream industry looking to export solutions.

lower-cost technology transfer missions to help develop a



Key industry trends and opportunities

Earth Observation market, continued from previous page

facturers' expertise. However, further countries have cho- look to expand their business. In addition, by 2023, 26 counsen to procure high-cost EO systems to meet more immedi- tries are expected to have full manufacturing capabilities ate national requirements, particularly for defense. For (acting as a prime and/or integrator); this will add further countries lacking a national manufacturing infrastructure, competition in the longer term for the developing EO satelmore direct procurement is required from existing "high- lite export market. end" solutions. In this case, capacity building is dropped in favor of obtaining a high-performing satellite delivered in a Satellite-Based Earth Observation, Market Prospects to shorter timeframe. The dilemma for the established manu- 2023 is the only report providing industry forecasts, assessfacturers capable of designing "high-end" systems is ment of business opportunities and analysis of the entire whether they expand into the development of lower-cost value chain for this growing segment of the satellite indussolutions, or remain with high-end provision, despite the try. The 7th edition of this landmark report includes a demore limited number of export opportunities.

these opportunities as most major prime manufacturers visit www.euroconsult-ec.com/shop.

tailed breakdown of application sectors within each region along with consolidated forecasts per application sector and There is however already strong competition to address per region. For more information on this report, please

M2M/IoT via Satellite Grow Amid Terrestrial Competition

Edition report finds that despite increasing competi- creasing available bandwidth." tion from terrestrial competitors, satellite M2M/IoT revenues will continue to grow strongly. NSR forecasts that reve- However, the increasing use of deep analytics to drive businues will exceed US\$ 2.4 billion by 2023, over double the ness optimization globally, especially in the transportation revenues in 2013 of US\$ 1.1 billion.

M2M/IoT sector, with associations between network opera- tary, which together account for 80% of the industry's reve-

tors reducing the friction of offering global solutions - especially in the key transportation and cargo sectors - satellite based M2M/IoT services are finding their niche by offering reliable, global services with a single point of contact worldwide. NSR expects this will remain unmatched by the terrestrial sector for years to come. No-

tively.

the forecast period" notes Alan Crisp, the study's author, Things via Satellite. This report enables M2M and IoT serments for most of the industry allows narrowband L-band their market position in both existing and new segments systems to remain dominant for the time being and into the that offer long-term revenue potential.



and cargo verticals, will drive users to next generation Lband systems, and to a lesser degree, HTS systems. This will Although there are increasing offerings in the terrestrial drive key verticals such as Transportation, Cargo and Mili-

> nues, corresponding to over \$1.8 billion by 2023. However, Green Energy and Civil Government verticals are expected to have the greatest unit growth - both in double-digits.

> NSR's M2M and IoT via Satellite, 5th Edition report provides not only the most comprehensive analysis of this fundamental satellite telecommunica-

where is this more pronounced than in Asia and Latin Amer- tions market, but also introduces an assessment of the terica where terrestrial networks abound; satellite in-service restrial M2M market. M2M/IoT analyses shifts in revenues, unit growth is forecasted at 12.6% and 9.9% CAGRs respec- changing end-user requirements and the impact that the increasing dominance of terrestrial networks has on the satellite based M2M ecosystem. Market forecasts and "Despite the proliferation of 4G LTE networks and expanded trends are outlined in 10 distinct verticals, plus an assessfootprints, there is no major game changer foreseen over ment on the current and future growth of the Internet of Analyst for NSR. "The continued low bandwidth require-vice providers and satellite operators to protect and expand



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CASBAA Convention Highlight Strategies for Adopting Content Beyond the Box

by Virgil Labrador, Editor-in-Chief

he annual CASBAA Convention, 2014 held in Hong gagement was an area where they Kong from October 27-29, saw speakers across tech- were continually learning, and that nology, advertising and content industries take a they were "trying to find the value more in-depth look at how to adapt to a future 'Beyond the equation to speak to consumers Box'. As the broadcast industry moves into new forms of who are always on." content delivery such as digital streaming and over-the-top services, the convention aimed to discuss these changes and Second screens were also discussed as an interactive adverhow to create new business models that works for today's tising medium. Simeon Dawes, EVP Advertising Sales and consumer demands.

beyond the box, the fact that linear TV would continue to be a strong presence was widely in agreement at the convention yesterday. Twitter's Global Chair of TV, Danny Keens was "getting them to add the brand where they feel it's commented that "TV was still the biggest game in town" with Barry Cupples, Global CEO, Investment, Omnicom Me- ScanAd, highlighted how the second screen experience dia Group, saying that he felt "positive about the future of could even lead to one click ordering for fast food or beauty TV as long as the content is good." Tuchman, President, AMC and Sundance Channels Global, discussed how the supply of narrative fiction has more than The failure of existing TV measurement to demonstrate doubled in the last five years and "people were watching value to advertisers was discussed by Ricky Ow, President, more TV than ever before." He felt that there was currently Turner International Asia Pacific and Henry Tan, COO, Astro, very little deployment of OTT, "the vast majority of the ex- with both agreeing they would commit to investing in experience remains linear."

With regards to the economics of TV, John McLellan, Head of the Commercial & Media and Entertainment Department, Haldanes said that "millennials will own a TV subscription" but Sushant Sharma, Senior Business Development Man- sumer as an individual. We need to work in partnership in ager, Accedo, argued against the economics of revenues from the likes of bundling stating "the internet will be the they open up their wallet." To reach the consumer "we have medium of future content delivery." Khush Kundi, Head of to consider the value proposition for them," said Henry Tan. Compression Solutions, APAC, Ericsson, went as far as to say that TV will survive and take a leaf out of the pirates' book if The technology conversation focused mainly on the adopthey look to target a new form of consumer: "Pirates are tion of 4k. There was agreement that 4k certainly did procreating new segments of customers and creating new TV platforms for the future."

Another hot topic was engagement through content and advertising consumption. During a panel session, Danny Keens discussed how there was a "bump in TV ratings of 29 per cent" due to associated Twitter conversations with research showing that viewers who were also engaging with Twitter stayed longer. In fact, Twitter's TV strategy evolved man, CEO and Co-Founder, Elemental Technologies, "Asia is organically as they realised the huge level of interaction ahead of other regions in the world for 4k proof of conwith TV programs and the potential to drive tune in by connecting with audiences. Barry Cupples commented that en-



Partnerships APAC & ME, and MD Middle East, FOX International Channels, discussed how there was a need "to really While there is a need to consider content and technologies engage the viewers and provide opportunities for sponsors". Josh Black, CEO & Head of Content, GroupM Asia Pacific, talked about how the challenge for advertisers now natural and authentic." Christophe Hochart, Founder, Bruce products.

> ploring better ways of doing this. "Mad men and math men need to come together in the same room and find a breakthrough solution," said Henry Tan. Yet OTT could show how to reach specific demographics said Ricky Ow, "OTT offers a broadband model that is a way from the home to the conadvertising. We need to gain trust from the consumer so

> vide a superior standard of visuals, "Anyone who has seen 4k will say that you can't go back," said David Habben, Chief Strategist, Media, Asia Pacific & Japan, Akamai Technologies, whilst Deepak Mathur, SVP Commercial, Asia-Pacific and Middle East, SES, thought that "4k is a fundamentally much more immersive experience, it is much closer to physically being there". There was general consensus that adoption was challenging though according to Sam Blackcepts."



Satellites and Verticals: From Oil and Gas to Wider Reaching Applications for a Mobile World

by Martin Jarrold

reserves are often found in ever-more hostile physical envi- specializes in the provision of a suite of IP telecommunicaronments, not least because of regional conflicts around tions solutions – and ScopeTel – a satellite service provider various parts of the global oil and gas patch, and not least – are the latest organizations to join the sponsor line-up for because the exploration and production (E&P) industry is this, the 7th event in the series to focus on the South East ever-more hungry to elevate its efficiencies and increase its Asia oil and gas patch. cost-effectiveness in extracting reserves from out of the

il is always big on the international economic and cations Conference Series will be taking place at the Interpolitical news agenda. Not least because of discov- Continental Hotel, Kuala Lumpur on 19th & 20th November. eries of new reserves, not least because such new Now, the Malaysia-based companies MajuNusa - which

ground or from under the ocean floor. Satellite communications is key to the latter – offshore and deep water - contexts.

On the satellite industry agenda, and that of its broad customer base, the subject of new high throughput satellite (HTS) systems and services maintains a central position in



At time of writing, some three weeks before the conference, a total of 80-plus delegates had already registered to join these most recent and the other event sponsors - Intelsat, RigNet, and Hermes Datacomms the still-growing and speaker line-up for GVF Oil Gas Communications & South East Asia 2014: Evolving the 'Big Data' Digital Oilfield for Offshore & Deep Water. The conference is supported by Petronas ICT, as well as by the

inter-industry dialogs, including with reference to the spe- Asia Pacific Satellite Communications Council (APSCC). cifics of the oil and gas E&P ecosystem where some very important issues are currently under examination, such as understanding why the roll-out to the offshore sector has been slower than anticipated.

Both oil and gas communications and high throughput satellite are the topics of important upcoming conference programs provided by GVF for the satellite provider and satellite user industries, and whilst the first of these events is DotCom; Treys; Veerappan & Company. obviously vertical market specific, and the latter addresses a wide-range of user sectors, including those bringing mobile applications to the fore, one thing that is common to both is the environment of 'Big Data'.

Reflecting the importance of the oil and gas sector to the • communications industries, and reflecting the importance of satellite communications solutions to the E&P environment, the 22nd event in the GVF-EMP Oil & Gas Communi-

As well as the body of speaking companies listed below, attending delegates will include representatives of the following organizations (presented alphabetically): 1 Radius Network; ExxonMobil-GSC; FiberComm; FPSO Ventures; Hess Corporation; Maxis Broadband; MeaSat; MRS Marine; Reach Ten Communications; RTBS Group; Sapura Kancana; Shell; SpeedCast; Telekom Malaysia; Telstra Global; Time-

These themes will be addressed by the following industryleading presenters and panelists (listed alphabetically by company), and correct at time of writing:

- Argiva: James Trevelyan, Sales Director
- Asia Broadcast Satellite: Nick Dukakis, Business Development
- AsiaSat: Speaker name & job title to be announced

Market Intelligence

- vices Coordinator
- GVF: Martin Jarrold, Chief, International Programme Development
- Harris CapRock: Jonathan Cox, Manager for Bids & Proposals, APAC Region

٠ Hermes Datacomms: Faizal Zainal Amri, General Manager

• **iDirect Asia:** Ranganathan Ayyengar V., Senior Systems Engineer

- MajuNusa: Pushpender Singh, CTO
- Marlink: Charlie Ransford, Business Development Manager, Asia
- NewSat: Speaker name & job title to be announced
- NSR: Blaine Curcio, Senior Analyst, NSR Shenzhen, • China
- RigNet: Rob George, Regional Vice President, Asia Pacific
- SES: Glen Tindall, Vice President, Sales, Asia Pacific
- Spacenet: John Meyers, Managing Director
- ViaSat: Roy Drakos, Director, International Business Development

The Kuala Lumpur conference program will include a wide range of themes which speakers will address both through presentation studies and interactive panel discussions, including: Oil & Gas Patch Communications: Now & Next Trends for Asia; High Throughput Satellites and Oil & Gas 'Big Data'; Comparative Portfolios of Satellite Services for the Oil & Gas Industry; Driving Satellite Transmissions & Services through Space Segment Cost Efficiencies; Offshore, Deep & Ultra-Deep Water E&P: South East Asia's Mission Critical Communication Requirement; Advanced Oil & Gas ICT: High Demand Communications for Crew Welfare, Crew Safety, and Crew Training Applications; Monitoring & Management of the Asian Digital Oilfield in Real-Time; UAVs, Satellites & O&G Infrastructure Protection; Advanced For more information on the full conference programs Modulation Techniques for Big Bandwidth: High Throughput Drivers for Today & Tomorrow; The Remote Application of Antenna Technologies for Oil & Gas; Oil & Gas IT Infrastructure: Communications Links & Cyber Security; Satcom Service Business Models: Getting More, Paying Less; Develop- 2014/, and www.uk-emp.co.uk/current-events/hts-ldnment, Deployment & Return on Investment: Advanced Net- roundtable-2014/. Speaking opportunities for the Kuala working Communications Infrastructures & Value-Added Lumpur program and the London program are still avail-Services to Realize Deep Water Reserves; Oil, Gas & Communications: Spectrum Requirements & Spectrum Defense; The 21st Century Asian Oilfield E&P: Maximizing Growth through Information & Communications Technologies.

Other themes under consideration for inclusion in the program by other speakers are: The WAN Optimization Imperative for Oil & Gas E&P; 'Big Data' Networking Solution Inno-

Baker Hughes: Lee Kai Hong, Field Communication Ser- vations for Cloud-over-Satellite in E&P; M2M in Oil & Gas E&P: From the SCADA Data-Flow to the Video Application Environment; Southeast Asia's E&P and the 'Internet of Things'; Evolving the Commercial Oil & Gas Application to the Offshore Communications Environment; Maintaining Oil & Gas Communications When Disaster Strikes; The Wireless World of the Oil & Gas E&P Environment; MWD: Measurement While Drilling & Other Real-Time Down-Hole Services in the Digital Oilfield; Hydrocarbon Hunger, Environmental Impact: Communications Solutions & Regulation in Oil & Gas E&P.

> Just two weeks following the Kuala Lumpur conference, the high throughput satellite discussion agenda will be advanced through the program to be presented by GVF-EMP at the Strand Palace Hotel in London on 2nd & 3rd December.

> High Throughput Satellites – London Roundtable 2014: The Game-Changer in Action will be the third annual event of its kind for Europe. Sponsored by Intelsat, Inmarsat, and C-COM Satellite Systems, organizations across the solutions provider and user communities have been invited to contribute to the event program which will comprise a series of interactive Roundtable/panel sessions.

> Each Roundtable will have its own moderator. Moderators to feature in the program will include David Hartshorn, Secretary General, GVF; Stéphane Chenard, Senior Analyst, Euroconsult; David Howgill, President, Huckworthy; and, Elisabeth Tweedie, Owner, Definitive Direction.

> Finally, it is particularly noteworthy that there will be significant emphasis during the London program on just how to more effectively "monetize" HTS - an issue, like the roll-out issue cited above, which has assumed a considerably heightened profile of late.

> please contact the Series organizers: Either me at martin.jarrold@gvf.org, or Paul Stahl at paul.stahl@ukemp.co.uk. Additionally, you may consult the conference websites at www.uk-emp.co.uk/current-events/o-gseaable.



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The Satellite Markets 25 Index[™]

Company Name	Symbol	Price (Nov 05)	% Change from Last Month	52-wk Range		% change from 52-wk High
Satellite Operators Asia Satellite Telecommunications Eutelsat Communications S.A. APT Satellite Holdings Ltd. Inmarsat Plc SES GLOBAL FDR	1135.HK ETL.PA 1045.HK ISAT.L SES.F	26.95 26.00 11.96 690.00 26.91	3.65% 2.50% 8.53% -1.43% -1.43%	25.60 35.00 21.06 26.42 7.98 12.78 633.45 784.00 21.22 28.663	**	23.00% 1.61% 6.42% 11.99% 6.12%
Satellite and Component Manufacturers The Boeing Company COM DEV International Ltd. Lockheed Martin Corporation Loral Space & Communications, Inc. Orbital Sciences Corp.	BA CDV.TO LMT LORL ORB	12422 3.98 189.73 7728 24.18	-0.36% 6.99% 6.66% 8.31% -10.77%	116.32 144.57 3.42 4.36 135.39 192.94 64.23 82.13 22.02 34.16	* * * *	14.08% 8.72% 1.66% 5.91% 29.22%
Ground Equipment Manufacturers C-Com Satellite Systems Inc. Comtech Telecommunications Corp. Harris Corporation Honeywell International Inc. ViaS at Inc.	CMLV CMTL HRS HON VSAT	1.21 38.44 70.72 96.71 60.44	-16.55% 3.56% 6.51% 5.51% 9.71%	1.21 2.03 29.27 40.48 60.78 79.32 82.89 98.09 51.50 74.78	* * *	40.39% 5.04% 10.84% 1.41% 19.18%
Satellite Service Providers Gilat Satellite Networks Ltd. Globecomm Systems Inc. International Datacasting Corporation ORBCOMM, Inc. RRSat Global Communications Network Ltd	GILT GCOM IDC.TO ORBC RRST	4.88 14.10 0.06 6.26 7.49	-0.41% 0.00% -20.00% 10.80% 13.48%	4.09 5.71 10.49 14.91 0.06 0.19 5.40 8.21 6.06 9.60	* * *	14.54% 5.43% 68.42% 23.75% 21.98%
Consumer Satellite Services British Sky Broadcasting Group plc DIRECTV Dish Network Corp. Globalstar Inc. Sirius XM Holdings Inc.	BSYBY DTV DISH GSAT SIRI	56.96 87.82 63.05 2.48 3.49	-1.30% 1.42% -0.86% -16.78% 2.05%	51.38 63.79 62.24 89.46 47.46 67.5 1.56 4.53 2.98 3.89	* * *	10.71% 1.83% 6.59% 45.25% 10.28%

INDEX	Index Value (Nov 05)	% Change from Last Month	% Change Jan. 03, 2014
Satellite Markets 25 Index [™]	1,715.32	1.39%	0.26%
S & P 500	2,023.57	3.98%	10.50%

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

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