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Industry Trends, News Analysis, Market Intelligence and Opportunities

NAB 2014 to Highlight the New Multiplatform Ecosystem

by Virgil Labrador, Editor-in-Chief

The annual NAB convention to be held in Las Vegas this month is arguably one of the most important shows for the satellite business. According to most research, broadcast services represent the largest business segment for the satellite industry. However, the NAB show has been undergoing major changes that reflect the changing multiplatform media. If you haven't been to NAB recently, well, you probably won't recognize it. In fact the lines between the Consumer Electronics Show (CES) show in January and this month's NAB, both held in Las Vegas, are blurring. Which is why, perhaps, the CES and the NAB do not use the use the full names of their acronyms anymore.

This year's NAB will highlight the new multiplatform media environment. (photo: NAB)

I attended my first NAB way back in 1996. Back then, broadcasting was pretty straightforward—it was dominated by the major networks and consisted mainly of television, radio and cable distribution. Nowadays, content is distributed not only through what is now called traditional broadcast media but to computers, mobile devices, smart phones, tablets, iPads and other devices. Unlike before, where content ie ether broadcasted over the air, sent over cable or satellite, now we have IP distribution, streaming media and Over-the-Top (OTT) services that bypass traditional media distribution chains. As the NAB puts it: "Platforms are multiplying faster than ever before. TV becomes IPTV. Mobile becomes Social. Social goes to the Cloud. As a result, it's now the consumer who has control – and they are demanding a fully connected, interactive, personalized content experience."

The new media will be showcased at this year's NAB. Over 90,000 participants from 155 countries ar expected to attend this year's NAB. There will be more than 1,500 exhibitors, 200 of which are exhibiting for the very first time. NAB is being positioned as the meeting place for professionals who create, manage and distribute entertainment across all platforms, according to the organizers.

With three spacious halls and an outdoor exhibit area, not to mention the distraction of a vast playground city like Las Vegas, it's easy to lose sight of the big picture in a show like the NAB. So here's a concise guide to the key things to expect, see and do at the NAB for those in the content management

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What's Inside


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From the Editor

A Tale of Two Shows

Last month, by some scheduling quirk, that may have been deliberate, the Satellite show in Washington, D.C. and Cabsat in Dubai, UAE were held on the very same days from March 11-13. Satellite companies were at a quandary on whether to attend one or the other or both. Some ended up choosing one show over the other and some split their teams between the two shows, with a reduced presence.

For us at Satellite Markets and Research, for which global coverage is of the essence, we had to be at both shows. We had contributing editors at Satellite and a booth at Cabsat. I personally, attended the first day of Cabsat, took a redeye flight from Dubai to Washington, D.C. and arrived just in time to catch the opening of the second day of Satellite. It was like *déjà vu*. At Satellite, the Executive of the Year Award honored this year's winner ARABSAT CEO Khaled Bhalkeyour and one of key receptions I attended at Satellite was at the UAE embassy hosted by Thuraya and Al Yah Sat—both companies based in Dubai!

It was evident that most of the senior staff of Middle East-based satellite companies opted to go to the Satellite show this year. There was a marked decrease in traffic in the satellite areas of Cabsat this year, no doubt, partly as a result of the scheduling the show at the same time as Satellite. This was unfortunate as, the Middle East is truly a growing region for satellite services and those who stuck it out this year attest to the opportunities evident at Cabsat. Thankfully next year, both shows are to be held at separate weeks. I certainly wouldn't recommend anyone going through two shows in two continents in three days.

***Virgil Labrador,* Editor-in-Chief**

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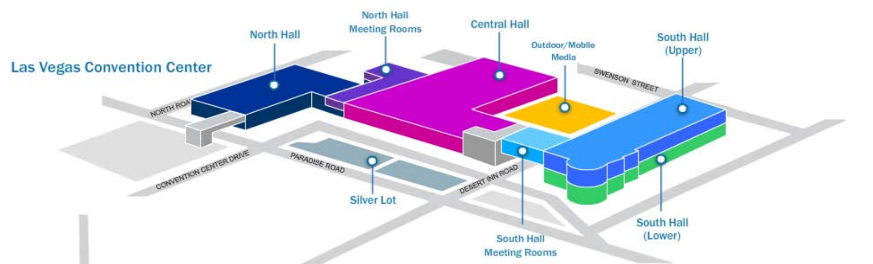
and delivery business such as satellite and other service providers.

Most of the satellite and other content distribution companies will be at the South Hall Upper level (see map). Others will in the Outdoor Exhibits area between Central and South Halls. A guide to some key exhibiting companies is available on pages 28-32 of this issue.



Map of the sprawling Las Vegas Convention Center which will host the NAB 2014.

If you're interested in seeing some new products in the content distribution, I recommend seeing **Newtec's** new Dialog platform (feature on page 15 of this issue) at their booth at SU 3421 and also check out **Work Microwave**, which is exhibiting at the NAB for the very first time at SU 8525.

For a glimpse of the future, don't miss the new NAB LABS Futures Park at the North Hall. The Futures Park will feature demonstrations of high-tech media developments in progress, prototypes, and products not yet available for sale, from academic, government, and commercial research laboratories in the United States and around the world. Japanese public broadcaster **NHK** will present the latest iteration of its Super Hi-Vision system at the Futures Park. This will be the first time anywhere in the world outside Japan that wireless transmission of 8K Super Hi-Vision has been demonstrated over a single 6 MHz TV channel. NHK will also present detailed results of a long-distance, single-channel, over-the-air 8K test broadcast recently conducted in Japan.

Spanish satellite operator **Hispasat** (booth SU 9821) will be launching at the NAB the first full-time dedicated 4KTV channel on Monday, April 7 at 5 pm.

There will be many huge booths by major corporations such as JVC, Panasonic and Sony among others showcasing the latest in Ultra HD or 4K TV. But Ultra HD is now almost mainstream, and the next step in its evolution is 4K distribution to mobile devices. If you're interested in where 4K technology is going, don't just limit yourself to the major players, check out the new upcoming and start-up companies at the SPROCKIT and StartUp Loft exhibits at the Central Hall.

"Consumers expect the content they consume to be delivered in crisp, rich resolution, regardless of device," said Chris Brown, executive vice president for Conventions and Business Operations at NAB. "The advent of new standards bring new challenges: capturing 4K-quality content, editing and archiving resource-intensive footage, and distributing a final product across mediums."

For conference sessions on 4K, there will be on Monday, April 7, the Super Session panel "*Consumers, 4K and Next Gen Home Entertainment -- Which Experiences Will Most Excite Them?*" The session will place a spotlight on the various features and stakeholders within the 4K ecosystem, identifying the next generation of home entertainment experiences that will excite consumers.

On Tuesday, April 8, NAB Production World attendees will learn how to scale production equipment to 4K standards and beyond at "*In Depth: Moving Beyond HD: 2K, 4K, 6K & More*." On Wednesday, April 9, there will be a session titled "The Future of 4K UHD - Examining Methods to Acquire, Exchange and Distribute Content" will provide details on the technologies through which UHDTV can be reliably and efficiently acquired, exchanged and distributed.

With its sheer scope and size, there really is something for everyone at the NAB. But the key is to plan carefully, as you can easily be overwhelmed and distracted. If you find yourself at the South Upper Hall, do drop by our booth at SU 10214. We will be doing for the first time this year, brief "man on the street" video interviews with NAB attendees. We'd love to hear from you.

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

Trends in Broadcasting

by Elisabeth Tweedie

Consumption of video continues to evolve as what once was novel is becoming more mainstream, and relative newcomers are starting to become leaders instead of followers.

Netflix, which only introduced its streaming service in 2007, now has over 33 million subscribers in the US, almost as many as satellite Direct-to-Home (DTH) operators DirecTV and Dish combined, and accounts for approximately 32% of all downstream fixed Internet traffic during peak hours. Interestingly, neither Amazon Prime Video nor Hulu both of which offer a similar service come close, accounting for less than 3% of fixed peak internet traffic between them. For mobile users the top spot goes to YouTube which accounts for 18% of downstream traffic during peak hours.

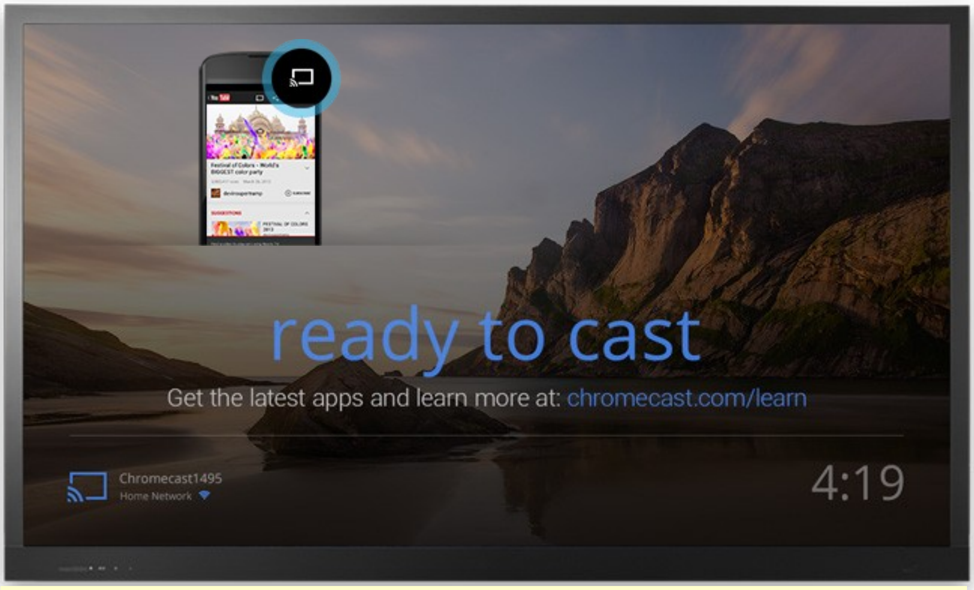
Last year both Netflix and Amazon entered the content creation market with original dramas. Netflix produced House of Cards, which went on to win three Primetime Emmy Awards and Amazon produced Alpha House. Amazon adopted an interesting approach, essentially harnessing the power of internet to decide what to produce. Initially Amazon viewers were offered 14 pilot videos for viewing and rating, Alpha House and Beta scored highest, so Amazon went onto to produce them. A pretty efficient way of entering the content market! This methodology was obviously considered a success as it was repeated this year when in February viewers were given another ten new pilots to view and rate. Making TV drama is not a cheap venture, currently homegrown content accounts for less than 10% of Netflix's content spend, which is budgeted for $3B in 2014, but additional productions have been announced that are likely to increase that percentage.

HEVC

Netflix and Amazon are now both producing and streaming in 4K. At the moment this represents a very small percentage of their business, but obviously something that they are both intending to grow. In January at the CES Show in Las Vegas, Netflix announced partnerships with Sony, LG, Vizio and Samsung all of which will include a Netflix App and High Efficiency Video Coding (HEVC also known as H.265) decoders in new TV sets which will enable viewing of the 4K content.

HEVC provides superior compression (approximately 2x) compared to the current standard H.264 and is needed to deliver the higher bandwidth 4K (aka Ultra High Definition – UHD) content. At about the same time Amazon announced that it will be working with Samsung, Warner Bros., Lionsgate, 20th Century Fox and Discovery amongst others to deliver 4K content. Netflix has said that it will stream UHD at 15.6Mbps, many in the industry think that this may not be adequate and say that 20-22Mbps will be needed. Either way if this becomes popular Netflix is likely to start accounting for more than 32% of peak internet bandwidth. The effects of this remain to be seen: on the one hand it could result in Internet Service Providers (ISPs) selling more premium (i.e. higher data rate) packages, or it could result in some ISPs throttling back the service raising questions of net neutrality again. It must also be remembered that already some consumers are complaining about the quality of streamed video. Millennials in particular are very sensitive to quality and performance and will quickly abandon video if it is slow loading or of poor quality. We also need to remember that those Millennials are no longer just teenagers – the oldest ones are now 34 years old.

What is interesting is that since the traditional broadcasters are still hesitant about distributing 4K content it could mean that viewers are introduced to the new format courtesy of the streaming services Netflix and Amazon.



Last year Google launched its Chromecast service which enables any TV connected to wifi to access streaming content from Netflix, Hulu, Amazon Prime Video and others. (image courtesy of Google)

In February Netflix and Comcast came to a "mutually beneficial interconnection agreement that will provide Comcast's U.S. broadband customers with a high-quality Netflix video experience for years to come." This is the first such agreement in the US, but the companies have stated that Netflix will receive no preferential treatment, the agreement simply provides for a more direct connection between Netflix and Comcast.

Google has its own way of impacting the streaming market. Last year it introduced Google Chromecast, a dongle retailing for $35 in the US (£30 in the UK) which enables streamed content including Netflix, HBO Go, Hulu and in the UK the BBC iPlayer to be played on any High Definition TV connected to a home WiFi system.

So, does the popularity of streaming services and Netflix in particular mean the end of TV as we know it? Not yet!

Cross-Platform Viewing

Nielsen's Cross-Platform Report – a survey of US viewers – released in March, shows that in Q4 last year the average monthly time spent watching traditional and time shifted TV was 155.32 hours whereas the time spent watching video on the internet or a smartphone was 8.56 hours, i.e. only 5.5% of the time spent on traditional TV. However that does represent an increase of 29% from the same quarter the previous year. Time spent watching traditional or time shifted TV was virtually static from the previous year. It almost goes without saying that Millennials and the as yet unnamed generation following them, are watching less traditional TV and more internet Video than their older peers. However the older generations are catching up - according to Ericsson 41% of 65-69 year olds are viewing streamed content weekly. Assuming the growth in time watching streamed media continues at the same rate by 2025 we will be watching as much streamed video as we are linear TV today.

Second Screen

Much has been written about the rise of the second screen. Recent research from a global survey from Ericsson Consumer Lab indicates that 75% of viewers multitask with a second or even third screen while watching TV often with something totally unrelated to the content being viewed, with 25% of multitaskers even watching a second video source. In the UK only 7% of second screens are used to access content related to the main screen.

It would appear that there is still a market waiting to be had, by anyone who can come up with a good way for viewers to sift through all the numerous channels and other sources of content available to them. A survey by DigitalSmiths at the end of last year found that 31% of consumers are overwhelmed by the choices and 80% still watch ten or fewer channels.

According to data released in March by Leichtman Research Group (LRG), 2013 was the first year that the largest Multichannel Video Program Distributors

(MVPDs) in the US (who between them account for 94% of the market) actually lost subscribers, albeit only 0.1%. Cable companies lost 1.7 million subscribers, but this was compensated for by the two Telco Services - Verizon FiOS and AT&T U-Verse - that added 1.5 million subscribers and the two satellite operators - DirecTV and Dish - who added 170K subscribers, resulting in a net loss of only 105K. Figures from Nielsen paint a somewhat different picture indicating that there are 1.3M broadband only households in the US. Both figures are likely to be true as the "loss" figures from LRG do not include households that did not have a video connection in the previous year.

"...It almost goes without saying that Millennials and the as yet unnamed generation following them, are watching less traditional TV and more internet Video than their older peers. However the older generations are catching up..."

Advances in Digital Compression

20 years ago there was one TV channel per transponder. Now thanks to advances in technology eight to ten Standard Definition (SD) channels are common. As a result many viewers are being faced with 500+ channels and, as noted above feeling overwhelmed as a result. It's interesting to speculate if we would have had the same number of TV channels that we do today, if it hadn't been for the advances in technology that made that economically possible. I think not! Now, thanks to recent work of the Digital Broadcasting Project (DVB) up to 37% improvement on the number of channels per 36MHz transponder will be possible. Hopefully this will be used to smooth the introduction of 4K – which even with HEVC is going to need approximately twice the bandwidth of HD – rather than to add more channels to confuse viewers even more! The DVB is an industry-led consortium including broadcasters, manufacturers, network operators, software developers and regulators from around the world. Members include all the major satellite operators and equipment providers, Newtec in particular have been very active in developing and promoting DVB-S2X the latest standard. As Thomas Wrede, VP, Reception Systems at SES and also active in the DVB said in a panel hosted by Lou Zacharilla, Director of Development for SSPA and the WTA during Satellite 2014, "DVB-S2 was supposed to be the *LAST* satellite standard – then… Newtec started tweaking it."

DVB-S2X provides a number of advantages over DVB-S2 including the ability to optimize link budgets with MODCODs up to 256APSK. Greater granularity, which means greater flexibility, is also possible due to the increased number of MODCODs and frame size combinations (113 vs. ~50 for S2). This actually brings the efficiency close to the Shannon limit. One new innovation in the standard that is likely to be very significant when UHD starts to roll out is the ability to bond capacity over several transponders, so if a broadcaster has small chunks of 4-5Mbps on multiple transponders these can now used to transmit one 4K channel.

Ultra HD

At this year's CES, as was mentioned in a previous article I wrote ("CES 2014: What it Means for the Industry," *Satellite Executive Briefing*, February 2014), one could be forgiven for thinking that 4K or Ultra High Definition (UHD) as it is also known is now mainstream. A very different picture emerged at a Broadcasters Roundtable held in March at Satellite 2014 in Washington DC. When the question of 4K came up the Vince Roberts, EVP Global Operations and CTO, Disney ABC Television Group, said very clearly that as far as he was concerned as yet there was no business case for it. He went on to make the point even more bluntly pointing out that the broadcasters didn't get one extra dollar of advertising revenue for HD and he didn't think it was their job to subsidize the Consumer Electronics Manufacturers. Having said that he also stated that all animated features were now being created in 4K as a means of future-proofing the content. John McCoskey EVP and CTO of the Motion Picture Association of America and formerly from PBS agreed with him stating that broadcasters will be the last to implement 4K for viewers, even though most content is now being produced in 4K. He also pointed out that regular HD content looked a lot better on a UHD screen. Martin Breidsprecher, CEO of Azteca America said that Mexico was seven to ten years behind the US and so far only had 5HD channels so it would some time before UHD to the viewer is implemented. Mexico is not alone. At the 17th World Summit for Satellite Financing held in Paris last September, Euroconsult stated there were 32,600 DTV channels at the end of 2102, of which "over 5,000" were HD.

The transition to 4K is not the only challenge facing broadcasters at the moment. The whole industry is the throws of a transition to file based workflows. As McCoskey put it "everything between the glass on the camera lens and the glass on the TV screen is digital". The industry is now leveraging the power of the IT industry to automate everything possible. Due to its sheer size and large R&D budgets that industry can move from concept to reality at a speed unattainable by the broadcast industry. Disney ABC moves 10 TB around the world to business partners every day and the ability to do this digitally is now fundamental to its business. Interestingly the logistics of doing this are now “outsourced” to the corporate IT department who already deal with the Tier One providers for the corporate (business) network.

From the broadcasters’ point of view, satellite, which once was strategic to their business, is rapidly becoming a commodity thanks to increasing competition from fiber and now even LTE, which can be leveraged for SNG and disaster recovery. However as yet, satellite still has the edge when it comes to Point to Multipoint delivery, something which is crucial to the networks. 60% of ABC’s schedule is live and has to be distributed to 230 affiliates in the US, satellite is still the best way of doing that. However we can’t afford to be complacent as Disney’s Roberts commented that ABC was experimenting with using the Cloud for pre-cached content to the edge.

From a network’s point of view satellites need to be IP routers in the sky providing dynamic scalability, agility and giving companies such as ABC the ability to carve up the country in multiple ways to reach different DMAs as and when needed. In other words the satellites that will meet the future needs of the networks are the High Throughput Spot Beam satellites providing maximum flexibility. For other broadcasters doing less live coverage John suggested that one way for satellites to remain strategic and relevant was to work with the fiber companies and offer a “one-stop-shop” as Intelsat for example already does.

Conclusion

The media landscape has certainly changed There are definitely challenges on the road ahead, competition from fiber and LTE coupled with the evolving nature of video consumption. Watch this space!

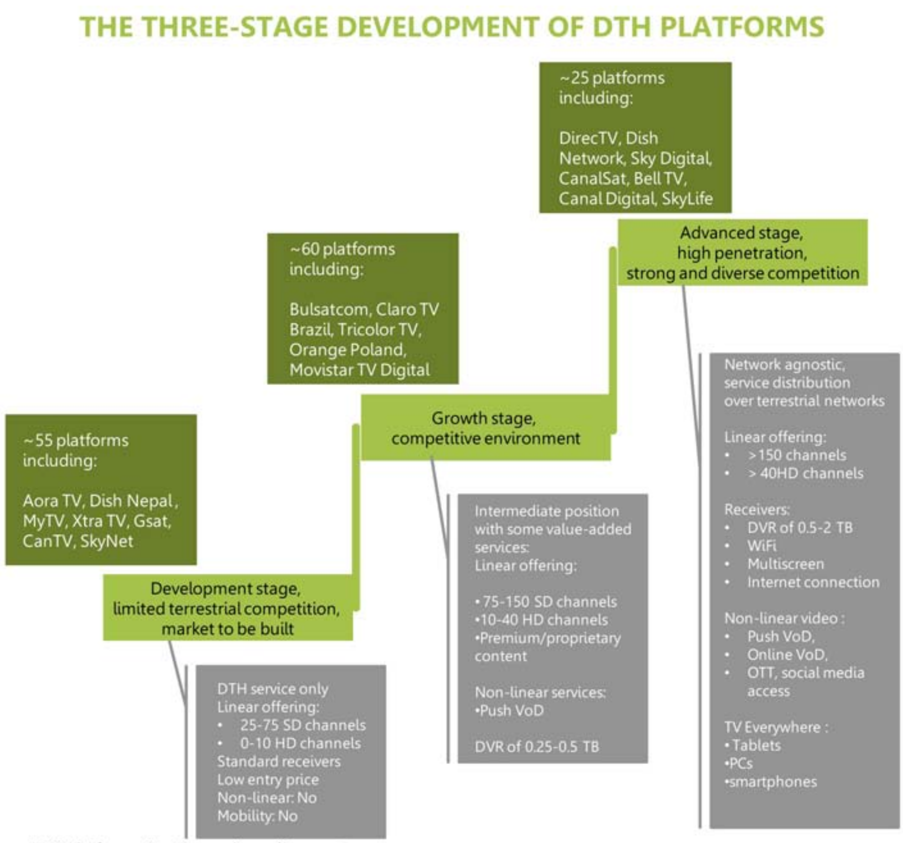
Elisabeth Tweedie is Associate Editor of the Satellite Executive Briefing. She has over 20 years experience at the cutting edge of new communication and entertainment technologies. She is the founder and President of Definitive Direction a consultancy that focuses on researching and evaluating the long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

DTH Continues to Grow while Adapting to New Consumer Trends

by Dmitri Buchs

The DTH market remains dynamic despite growing pay-TV competition

With around 220 million subscribers (10% growth over recent years vs. 15 % growth in previous years) and revenues of $100 billion in 2013 (5% growth over recent years vs. 10% growth in previous years), the Direct-to-Home (DTH) pay-TV industry has slowed down in the last couple of years. Nevertheless, the market continues to grow despite increasing pay-TV competition and unfavorable economic conditions in several markets. This is favored by the fact that the DTH industry remains a reference for the distribution of digital entertainment thanks to a combination of technical advantages that combine the benefits of digital TV (video compression and large TV offers) and the ability to cover an entire country or region for a limited capital expenditure.



DTH Platforms: Key Economics and Prospects © Euroconsult 2014

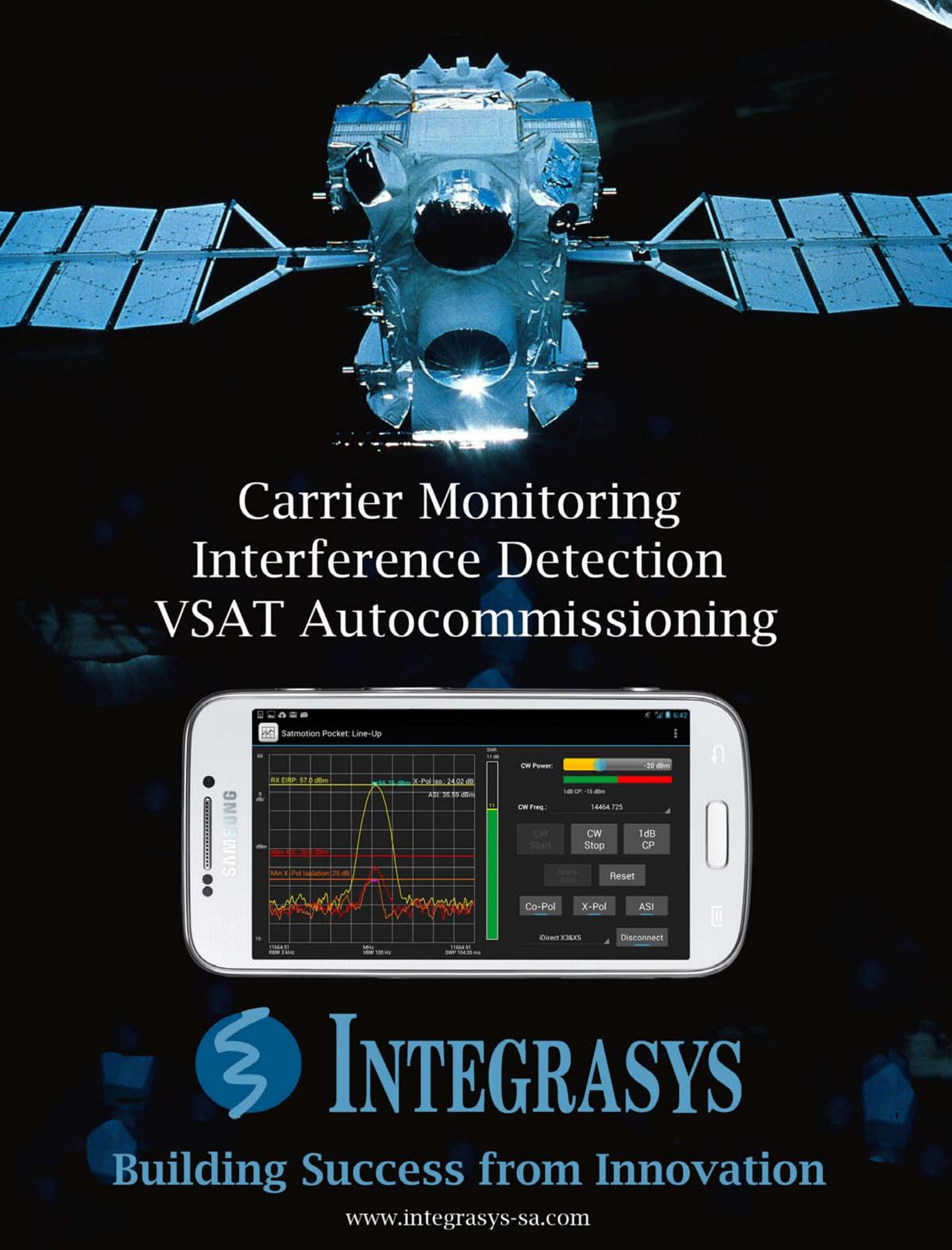
Since the second half of the past decade, the DTH pay-TV market has rapidly increased its geographical reach and scope, reaching a critical size in many markets, including a growing number of emerging digital markets.

In recent years, a growing divergence in trends has been observed between emerging digital markets (Latin America, Eastern Europe, Middle East & Africa, and most of Asia) and mature markets (North America, Western Europe and several Asian countries including Japan and Korea), with the former driving most market indicators such as subscriptions, number of channels, number of platforms and revenues.

In emerging digital markets, the large availability of low-cost services (<$10/ month), low pay-TV penetration and the emergence of a middle class subscribing to pay-TV have had a positive impact on growth dynamics in recent years. However in mature markets, the market has been negatively impacted by a tough economic context, as seen in Europe, and by growing pay-TV and FTA competition, including non-linear competition such as Over-the-Top (OTT), and Video on Demand (VoD).

In coming years, the divergence in trends between emerging digital markets and mature markets is expected to remain and even widen, as growth in subscriptions, revenues and even TV channels should be driven entirely by the former. The market is expected to be particularly challenging for platforms operating in mature markets where IPTV and OTT services should experience strong growth.

This competitive landscape has already led to an adaptation of business models and service offerings in most mature TV markets and some emerging digital markets. In the coming years, an accelerated adaptation of business models and service offerings is planned globally as terrestrial competition should intensify in all regions. From a network agnostic approach for distribu-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tion to the rollout of next-generation receivers and the launch of OTT offerings, DTH platforms are increasingly going to expand their ecosystem.

DTH Companies Strategize and Turn to Cross-media Platforms

With competition increasingly coming from non-linear providers, led by OTT companies including Netflix, Hulu and Amazon Prime Instant Video, the current strategy of DTH platforms is to fight off their threat by giving customers access to content through one service and across multiple screens (TVs, tablets, PCs and smartphones). In order to do so, they are increasingly investing in solutions to keep customers connected with broadband and telephony products in the home via DSL and fiber, and on the road with WiFi and 3G/4G.

LAUNCH OF OTT SERVICES BY DTH PLATFORMS

DTH platform	Country	OTT service	Launch date
Sky Deutschland	Germany	Sky Go	April 2011
Dish Network	USA	Blockbuster Movie Pass	September 2011
OSN	Middle East	OSN Play	November 2011
Sky Brazil	Brazil	Sky Online	February 2012
Dish Network	USA	DISHWorld	May 2012
Astro	Malaysia	Astro On-The-Go	June 2012
Sky Digital	UK	Now TV	July 2012
Vivo	Brazil	Vivo Play	November 2012
NC+	Poland	NC+ Go	September 2013

DTH Platforms: Key Economics and Prospects
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Becoming cross-media platforms has not only become essential to better compete against growing competition, but also to adapt to new consumer trends. Consumers are looking for content in a more active way, including non-linear programming, multiscreen TV and on-the-go. Offering only linear content is no longer sufficient for platforms operating in mature markets; this trend is expected to spread to emerging digital markets in coming years.

In order to implement their cross-media strategies and to be better positioned against terrestrial network's triple/quadruple play offerings, a growing number of DTH platforms are including Internet and telephony services in their offerings (>50% in 2013), through their own network (for example Sky Digital) or through partnerships with telcos.

Proprietary set-top boxes (STBs) play a central role in enabling platforms to become cross-media providers. They are increasingly investing in STBs that enable viewers to watch non-linear and linear content across multiple screens. These new STBs enable home networking and increasingly act as a digital TV gateway and or server that can notably connect to other STBs and mobile (iOS/Android) devices. They are major revenue drivers as they are usually offered at an extra fee, pushing subscribers to purchase more content. Currently, Sky Digital (UK) and Dish Network (US) own two of the most advanced models available.

With the expansion of Internet-connected households and the growing number of STBs with multimedia capabilities among DTH subscribers, DTH platforms have increased their focus on non-linear content. Non-linear services have a major positive impact on KPIs as they limit churn and increase revenues. In the future, they could also become a strong factor against cord-cutting. Such services include:

- VoD services are now offered by >2/3 of DTH platforms around the world such as CanalSat's CanalPlay VoD and Astro's Astro First;
- OTT services are offered by >10% of platforms. So far, OTT services are mostly reserved for the platform's subscribers but some platforms such as Sky UK and Sky Deutschland are now offering standalone OTT.
- Other non-linear services notably include catch-up services (CanalSat a la Demande) and Web TV streaming services (Dish Network's Blockbuster Movie Pass).

If the DTH industry continues to adapt to new competition and consumer trends as it has started to prove in recent years, growth should continue in emerging and mature markets. Market growth is likely to be increasingly driven by non-linear services, which will account for a growing share of DTH platforms' revenues in the coming years across all regions; yet linear services are expected to remain a central part of service offerings in the DTH industry in the foreseeable future.

About the Report

DTH Platforms: Key Economics & Prospects assesses the market structure, trends, drivers and current/future financial aspects of the direct-to-home pay-TV business. For more information visit: http://www.euroconsult-ec.com/

Dimitri Buchs is a Consultant of **Euroconsult,** based in Montreal, Canada. He specializes in the digital broadcasting sector. He is the main contributor to Euroconsult's research reports dedicated to the broadcasting sector including *DTH Platforms: Key Economics & Prospects and Video Content Management and Distribution*.

Newtec Dialog®

At the CABSAT and Satellite 2014 shows last month, Belgium-based equipment manufacturer Newtec launched its Newtec Dialog® platform. Taking years to develop in R&D, Newtec Dialog® is the culmination of the many lesons learned by Newtec in serving diverse markets globally.

The result is a efficient, flexible and scalable platform that can do both consumer and enterprise services. “Newtec Dialog gives operators the power to offer a variety of new services on one platform always in the knowledge that they are using the most optimal modulation and bandwidth allocation,” said Steven Soenens, VP-Product Management of Newtec.

The **Newtec Dialog® platform** is a **scalable** and **flexible multiservice** satellite communications platform that allows satellite service providers to build and adapt their network easily as their business grows.

Key Features include:

- Supports multiple satellites, multiple frequency bands, regular and spot beam satellites.
- Scalable from **5 to +100.000s** of terminals.
- Highly efficient DVB-S2 ACM and Clean Channel Technology in the forward link.
- Choice between **SCPC, MF-TDMA** and **patented Newtec Mx-DMA™** as return link technology.
- Hierarchical QoS management with 7 classes.
- Advanced Network Management System capabilities, both GUI and API, including VNO support.

Flexibility

Newtec Dialog® allows you to adapt your infrastructure easily as your business changes. That's flexibility. Newtec Dialog is built to allow flexibility in the choice of technology and equipment, but also the types of services and applications available, ensuring a completely flexible focus for the businesses using it. Newtec Dialog® gives service providers optimal efficiency enabling them to establish a business case for single or multiple markets using one single platform and Operations Support System / Business Support System (OSS/BSS).

Having a platform with these qualities opens up a multitude of possibilities for optimizing the usage of infrastructure and satellite capacity across different markets. For example, a provider with a history of servicing a majority of IP trunking clients can shift focus easily and begin targeting broadcasting, backhauling, consumer and enterprise VSAT or government and defense markets quickly using the same Newtec Dialog® infrastructure. The platform therefore enables operators to adapt to any business scenario and provides the capability of delivering tailored services.

Efficiency

Newtec Dialog® enables the most optimal modulation and bandwidth allocation. That's efficiency. Newtec’s engineers have invented a new patented return link technology, which combines the best qualities of SCPC and MF-TDMA. The platform also supports SCPC DVB-S2, and Newtec S2 extensions return link for applications which demand high bandwidth and MF-TDMA 4CPM technology for highly overbooked services, such as Internet access for consumers, SME/B2B and SCADA. The MDM3000 series of Newtec modems, which run on the Newtec Dialog® platform, support all three return link technologies enabling operators to optimize the service delivered to individual end-customers via a simple configuration in the NMS. This can be done at any time and with minimal impact. The Newtec Dialog System is software upgradeable to support the new DVB-S2X in the return link as well. All return link technologies are combined with Newtec’s core technology FlexACM®, a highly efficient Adaptive Coding and Modulation (ACM) algorithm using Newtec patent pending technology. With these technologies, Newtec Dialog is able to provide the most optimal modulation and bandwidth allocation at any time, for any

application and any satellite, while guaranteeing the highest efficiency.

Scalability

Newtec Dialog® offers a platform to build a business to the size the client requires. The platform is designed to be used for every type of networking: from the very smallest, with for example five remotes, up to the very largest, having hundreds of thousands of remotes, from single coverage to multi-spot High Throughput Satellite (HTS) networks.

Additionally, operators can invest as the business grows, the HUB scalability and flexibility enables low up-front CAPEX requirements. The platform will use Newtec's proven modems, including both the MDM2000 and MDM3000 series. The modems have many features embedded off-the-shelf including acceleration and compression, encryption, multi-language web GUI and IPv4/IPv6, as well as having the advantage of being easy to install using Newtec's Point&Play® self-installation system.

According to Didier Tymen, VP-Sales for EMEA, the response to the Newtec Dialog® a launch at CABSAT was very enthusiastic. One of the first clients to sign up with Newtec is Airbus Defense and Space which signed a contract to deploy Newtec's Dialog platform as the technology of choice for providing global fixed VSAT solutions. In the coming months, new network hubs will be delivered and installed in several Airbus teleports serving Enterprise and Government customers, with remote VSAT terminals being deployed all across the globe.

Erik Ceuppens, Head of Satellite Communications at Airbus Defense and Space said: "Being faced with ever evolving markets requirements and the need to make more efficient use of our space segment, Newtec Dialog platform turned out to be the most future-proof technology choice for Airbus Defense and Space. It will power our next generation Enterprise VSAT services that will be launched later this year, as part of our AuroraGlobal initiative."

View a video interview with Steven Soenens, VP-Product Management and Didier Tymen, VP-Sales, EMEA of Newtec on their new Newtec Dialog platform at : www.satellitemarkets.com/newtec-2014

Is There a Future without Acquisition?

by Lou Zacharilla

The day before one of the largest operators on earth, Arqiva, was named the industry's Independent Teleport Operator of the Year at the annual WTA awards luncheon in Washington, DC, its Managing Director of satellite, Berrie Woolston gathered with other member teleports to discuss the subject of growth. Among the topics was whether small teleport operators, especially those experiencing rapid growth, could have a future without an acquisition.

My job was to moderate a panel that included the heads of two of the world's best small operators, Jorge Luis Villarreal Schutz, CEO of Mexico's Elara Communications and Tomaz Lovsin, Managing Director of Satellite Telecommunications Network (STN) in Slovenia. I wanted to ask what they thought their "next act" would be, and see if Arqiva was their model or mentor – or neither. The two "indie" operators were joined by Eric Greenberg, a partner at the law firm of Paul Hastings, whose firm hosted the WTA Members event. I asked, "Do you grow big, or do you go home?"

Excerpts the back and forth between Jorge, Tomaz, Eric and myself follows:

Lou Zacarilla (LZ): *Let's get right to the issue. Jorge and Tomaz, can your companies continue their organic growth and succeed?*

Jorge Villareal (JV): Well, the main challenge we face is to find a way to maintain our fast growth, which has been nearly 40% per year for the past few years. To date, our focus on the enterprise market in Latin America, and our success with customers, has given us all the fuel we need to grow.

LZ: *Tomaz, you are in a different part of the world, Europe. However you are also growing fast and steady – and confidently. Can it continue?*

Tomas Lovsin (TL): Our growth rate puts STN in the "goldilocks zone" of organic growth.

LZ: *Meaning you are growing "just right" and the wolf is nowhere in sight?*

TL: Meaning that it is dangerous for a company to inflate its growth in a condensed period of time because you risk losing control over your whole process of managing the company and can make things worse. We are a family-owned business which leans toward managed growth internally. For us a 15-20% annual growth rate is viable.

LZ: Are both of you saying growth by acquisition is not an option? Or simply not a preference?

"...The regulatory climate in Mexico is changing in favor of small to medium-sized telecom carriers, which will benefit our company and allow us into niches. ..."

-Jorge Luis Villarreal
CEO, Elara Communications

JV: No. I am not saying that at all, Lou. While we still believe that there is room for organic growth in our region we are considering additional growth opportunities and, yes, acquisitions in certain verticals.

TL: In ten years as a provider of video/audio broadcast and

IP data services via satellite we have evolved from a small regional player in this part of Europe to a world-renowned teleport. We are up to 50 people and managing STN in line with our internal, intended growth strategy. As long as we can manage our growth as we intend it, there is no need for acquisitions.

LZ: *So you rule out acquisitions altogether?*

TL: No. We have a medium-term plan (three to five years) which factors in several options, including acquisition and sale. But these are simply among the options. At the moment, I foresee STN continuing on its current course.

LZ: *Are there market or regulatory factors in Mexico and Central and Eastern Europe that support your optimistic views?*

JV: The regulatory climate in Mexico is changing in favor of small to medium-sized telecom carriers, which will benefit our company and allow us into niches. The larger companies will also be subject to new rules with regard to sharing infrastructure which will open new opportunities for Elara. We are entering a new phase in our satellite industry, which includes the advance of Ka-band and HTS as well. I also believe we will see innovations that will allow us to complement terrestrial networks more than before.

TL: Slovenia's national regulatory agencies are more concerned with regulating terrestrial frequency spectrums for digital terrestrial TV, mobile telephony, etc., rather than regulating satellite broadcasting.

LZ: *The EU's role seems to be to set basic ground rules and support common interests, such as open markets and fair competition. If new technologies are hitched to largely unregulated environments, there could be a good period ahead for you.*

TL: Yes. Personally I am convinced that the EU will leave satellite broadcasting mostly unregulated. If it instigated quota rules such as we have seen, it would end specialized movie programs such as Sky Movies. A highly unregulated atmosphere makes conditions for us extremely favorable.

LZ: *Eric, you have listened to the small teleport operators. They do not rule out acquisitions, but they prefer to keep control, at least for now. What is your view?*

Eric Greenberg (EG): Ultimately, acquisitions are essential to growth. Whether one seeks to be acquired or to be the acquirer is a fundamentally different strategic question. Both Jorge and Tomaz have said that acquisition is a factor in their longer-term thinking.

LZ: *True. What advice would you give them?*

EG: The key to creating and maximizing the future sale opportunity is to anticipate the due diligence process *now*. This is especially key in the teleport industry, because con-

"...Slovenia's national regulatory agencies are more concerned with regulating terrestrial frequency spectrums for digital terrestrial TV, mobile telephony, etc., rather than regulating satellite broadcasting. ..."

-Tomaz Lovsin
Managing Director, STN

"...acquisitions are essential to growth. Whether one seeks to be acquired or to be the acquirer is a fundamentally different strategic question..."

-Eric Greenberg
Partner, Paul Hastings Law Firm

tractual relationships are key assets for the purpose of valuation. In addition, real estate assets can be crucial to a valuation, and often are a source for negotiation.

LZ: *Unlike Barrie Woolson of Arqiva, there seem more psychological hurdles for these smaller managers because they feel much closer personally to their businesses.*

EG: As we said at the WTA event at Paul Hastings, the nature of growth is itself an inherently personal and idiosyncratic issue. STN finds more appeal in a smaller, more flexible structure.

LZ: *And Jorge comes from a corporate background and thinks differently. Should both be more flexible?*

EG: They should keep the door open. They should think like acquirers, asking "how can my advantages be maintained, nurtured or maximized?

LZ: *So do they build it or buy it? Strong technology markets have created opportunities for entrepreneurs to start and grow innovative businesses, and some of these have become targets for acquisition and can contribute to a larger success story.*

EG: The trajectory of the teleport industry suggests that they "buy it." It is the most efficient method. Acquisition can be an express lane to growth. We see it that way.

Lou Zacharilla is the Director of Development of the Society of Satellite Professionals International (SSPI).
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The Road to a Sprint-T Mobile Merger Goes Through DISH

by J. Armand Musey

It's no secret that Sprint and T-Mobile have been exploring a potential merger and that there are significant concerns over whether such a merger would be approved. Sprint and T-Mobile argue that the US wireless market is a near-duopoly dominated by ATT and Verizon with a combined market share of approximately 61%. Sprint and T-Mobile have approximately 18% and 12% market share respectively and the remaining 9% of the market is split between approximately 100 smaller carriers.

The argument is that by combining, Sprint/T-Mobile would have economies of scale needed to more effectively compete with ATT and Verizon. They argue the significant synergies (US$1.5 to US$ 2.0 billion annually) would allow them to offer higher speed data and other advanced services and/or reduce prices in ways they otherwise couldn't afford.

> ***"…by combining Sprint/T-Mobile would have economies of scale needed to more effectively compete with ATT and Verizon. They argue the significant synergies (US$1.5 to $2.0 billion annually) would allow them to offer higher speed data and other advanced services and/or reduce prices in ways they otherwise couldn't afford…"***

Many market legal observers are understandably skeptical the FCC will accept this argument (Note: communications industry mergers require both DoJ and FCC approval, but FCC approval is general considered harder. This because the FCC has a more nuanced "public interest" standard for approving a merger). In particular, a merger that involved a reduction from four major participants to three is often hard for regulators to accept. This is particularly under Democratic administrations and for merger involving consumer services.

DISH to the Rescue?

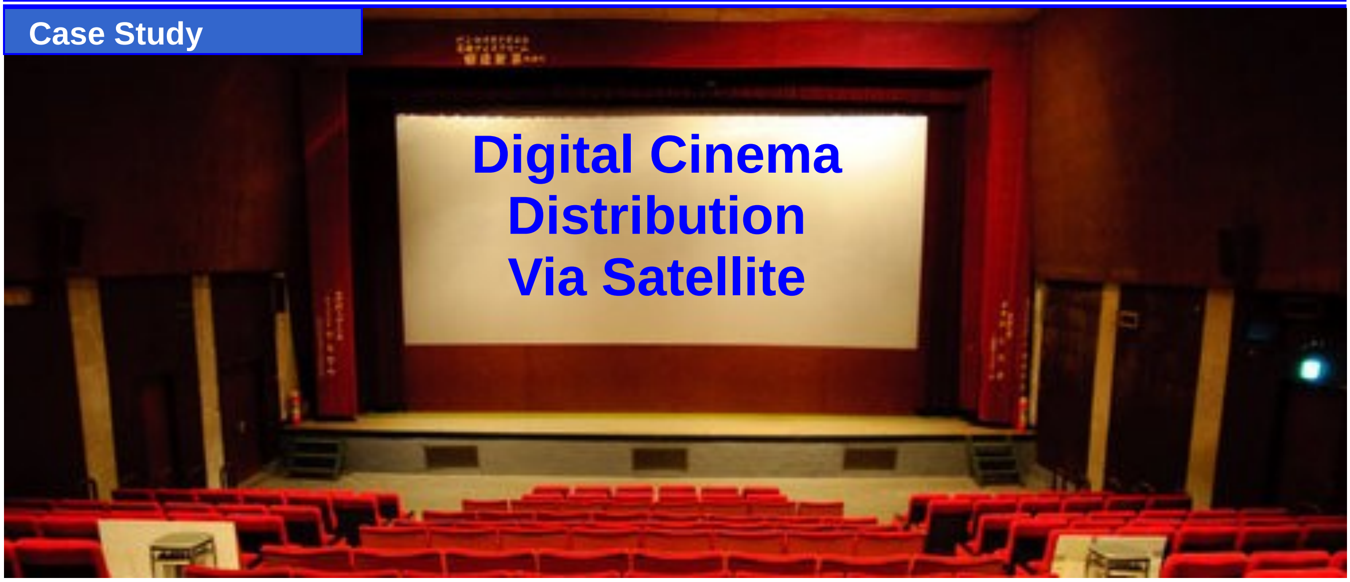
DISH may offer the solution assuming FCC would like to see more competition to ATT and Verizon, but is concerned about a reduction to three major competitors in the wireless industry. DISH, or someone working with them, is probably the only viable new entrant in the mature US wireless industry. DISH has 14 million existing customers they are billing. They already have relationships with critical retail distribution channels and hardware manufacturers. And DISH has approximately 55 MHz of spectrum nationally. Moreover, the DBS industry is seeing its subscriber base shrink because it lacks a broadband option that a wireless service might offer.

It's also clear the FCC would like to see DISH as a new entrant to the wireless industry. The FCC has bent over backwards to give DISH terrestrial use of the AWS-4 spectrum at no additional cost, and then an option to convert all of it to downlink if they bid for the H-Block spectrum (an auction that more resembles a negotiated bid than an actual auction).

Despite these advantages, DISH appears hesitant to enter the highly competitive wireless market. But what if Sprint/T-Mobile threw DISH a lifeline to enter the market in order to get approval for their own merger? Sprint/T-Mobile could offer DISH preferred roaming rates on their networks until DISH completed its network rollout, sharing of other facilities for a similar period, ensure that phones built for Sprint/T-Mobile also worked on DISH's frequencies and a host of other benefits to facilitate DISH as a rapid new entrant. The prospect of DISH as a strong rapid new entrant to maintain four major players just might be enough to convince the FCC to allow the Sprint/T-Mobile merger.

The obvious question is whether supporting a new entrant is too much for Sprint/ T-Mobile to offer to get a merger approved? With synergies of roughly US$ 1.5 to US$ 2.0 billion annually, they would be incented to make some significant concessions. Also, if DISH decides to enter later without these advantages, perhaps motivated by a desire to offer broadband to stem subscriber losses, they may need to enter aggressively with very low prices. Thus, from a Sprint/T-Mobile perspective, it might be better to support DISH's entry in an orderly fashion sooner, rather than risking a highly aggressive "scorch the earth" entry a year or two later.

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

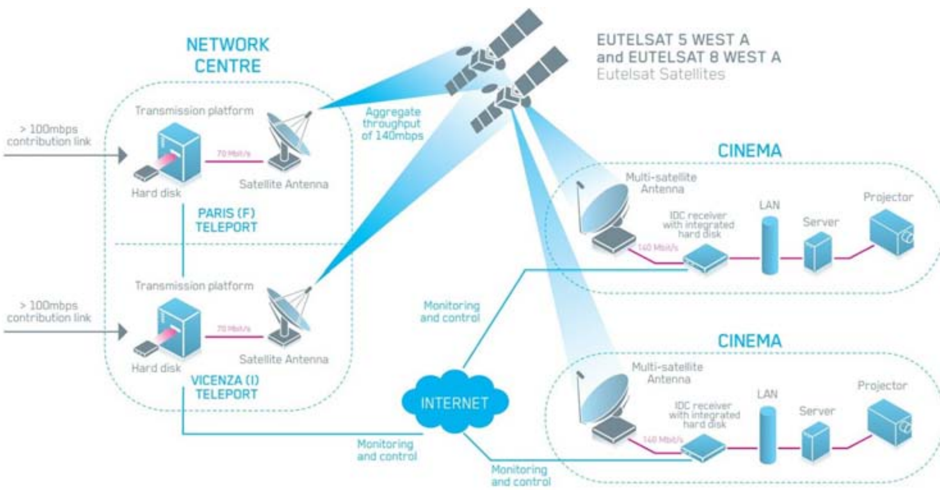


Digital Cinema Distribution Via Satellite

The cinema industry in Europe is transitioning from celluloid (film) to digital. As this demand for digital cinema content expands, the dematerialized transmission of films and live events via satellite is considered a fast, secure solution for broadcasting content to an unlimited number of cinemas in a given coverage area.

Background

DSAT Cinema manages the most comprehensive European network for cinema distribution via satellite. With more than 1,000 cinema complexes already under contract, DSAT Cinema is a leader in the delivery of digital film and live 2D and 3D events in Europe. Two critical players in digital cinema, satellite operator Eutelsat Communications and dcinex from Belgium, one of Europe's leading digital cinema company, created DSAT Cinema as a joint venture company in 2012.



Schematic diagram of the DSAT Digital Cinema distribution via satellite

Since its inception, DSAT Cinema has delivered more than 300 films and 50 live broadcasts, from locations that include Moscow's Bolshoi Theatre, New York's Metropolitan Opera, and the Royal Opera House in London.

As a joint venture, DSAT Cinema employs a vast cinema delivery network infrastructure based on the satellite expertise from Eutelsat and the operational support from dcinex and satellite provider, OpenSky. Its current system utilizes two satellites, two teleports, a network operations center, a multilingual hotline and a logistical backup service by hard disks. DSAT Cinema plays an important role in the fast-growing market for management and distribution of digital cinema content across Europe.

DSAT Cinema's network represents more than 7,000 cinema screens. Its fully equipped cinemas are mainly in Italy and France, which each account for more than 300 complexes, as well as an additional 200 cinemas in Austria, Germany and Switzerland combined. An additional 150 sites are located in Spain, Benelux, Czech Republic and Slovakia with the remaining installations principally in Poland, Romania and Scandinavia.

The Requirement

DSAT Cinema's objective is to double the size of its current network of 1,000 cinemas across Europe within the next two years. DSAT Cinema sought a balanced, long-lasting relationship with International Datacasting Corporation (IDC), a leader in digital cinema, who supplied technology to its parent companies since 2008.

DSAT Cinema needed an experienced supplier of satellite solutions for the delivery of Digital Cinema Packages (DCPs) or movies over satellite. IDC provided the latest SFX Pro Video XTR receiver, a fully featured satellite receiver device which can receive DCPs at high-speed while simultaneously delivering 2D and 3D live events into digital cinema projectors. IDC also supplied a head-end capable of high-speed DCP broadcast, which also provides control and monitoring of thousands of deployed receivers, which is necessary to ensure the network is operating reliably at all times.

With more than a decade of experience and as a pioneer in satellite-based DCP and 3D live event delivery, IDC has a proven track record with the world's leading digital cinema content distributors. At present, more than 4,000 IDC receivers are shipped to customers on six continents. Seventy percent of the digital cinemas worldwide now rely on IDC's technology.

The Solution

IDC's Digital Cinema platform can ingest, verify and confirm delivery of content conforming to the DCP file and directory format devised by movie studios to enable the secure digital distribution of their valuable content. The platform can also encode and decode high quality 2D and 3D linear streams for the encrypted distribution of live events to cinemas in either MPEG-2 or MPEG-4 formats.

DSAT Cinema was already successfully implementing both IDC's headend equipment located in Paris, France, and Vicenza, Italy, as well as 850 of the preceding SuperFlex Pro Video Receivers in the same network. Their expansion plans call for more than doubling their deployment of IDC receivers. The SuperFlex Pro Video XTR Receivers include a video decoder, file receiver and storage device in one receiver. This solution fully integrates with DSAT's existing IDC headend equipment. The SuperFlex Pro Video XTR Receiver enables both DCP delivery over satellite plus normal live events in 2D or 3D from one receiver.

The multi-functionality of the SuperFlex Pro Video XTR Receivers helps DSAT Cinema reduce capital expenditure. The IDC receiver decodes live video, and can receive DCP files, in parallel, on two different satellite carriers. Using capacity on the EUTELSAT 5 West A satellite, DSAT Cinema can broadcast digital content to all fully-equipped cinemas anywhere in Europe, at uploads speeds of up to 70 Mbit/s. By combining this capacity with a second transponder on this satellite or on EUTELSAT 8 West A, it is possible to achieve aggregate throughput of up to 140 Mbit/s, enabling a 150 GB digital film to be delivered in less than three hours. All IDC receivers are controlled from the DSAT Cinema network operations center to ensure fast and secure delivery of the content. This collaborative approach sets the stage for digital cinema content distribution via satellite virtually anywhere in Europe.

Lessons Learned

Creating an innovative and collaborative partnership encourages IDC to stay at the competitive edge of advanced digital cinema technology for the long term. At the same time, DSAT Cinema can expand on a high quality network using IDC solutions they already know and trust. Together these two leaders in the digital cinema satellite industry can stay focused on bringing leading end-to-end solutions anywhere in Europe, while incurring minimal risk.

"Missed DCPs and live events are costly. Deployment of a professional solution ensures that the network availability is predictable and maximized – this ensures customer satisfaction and repeat business," said Walter Capitani, IDC's VP of Marketing.

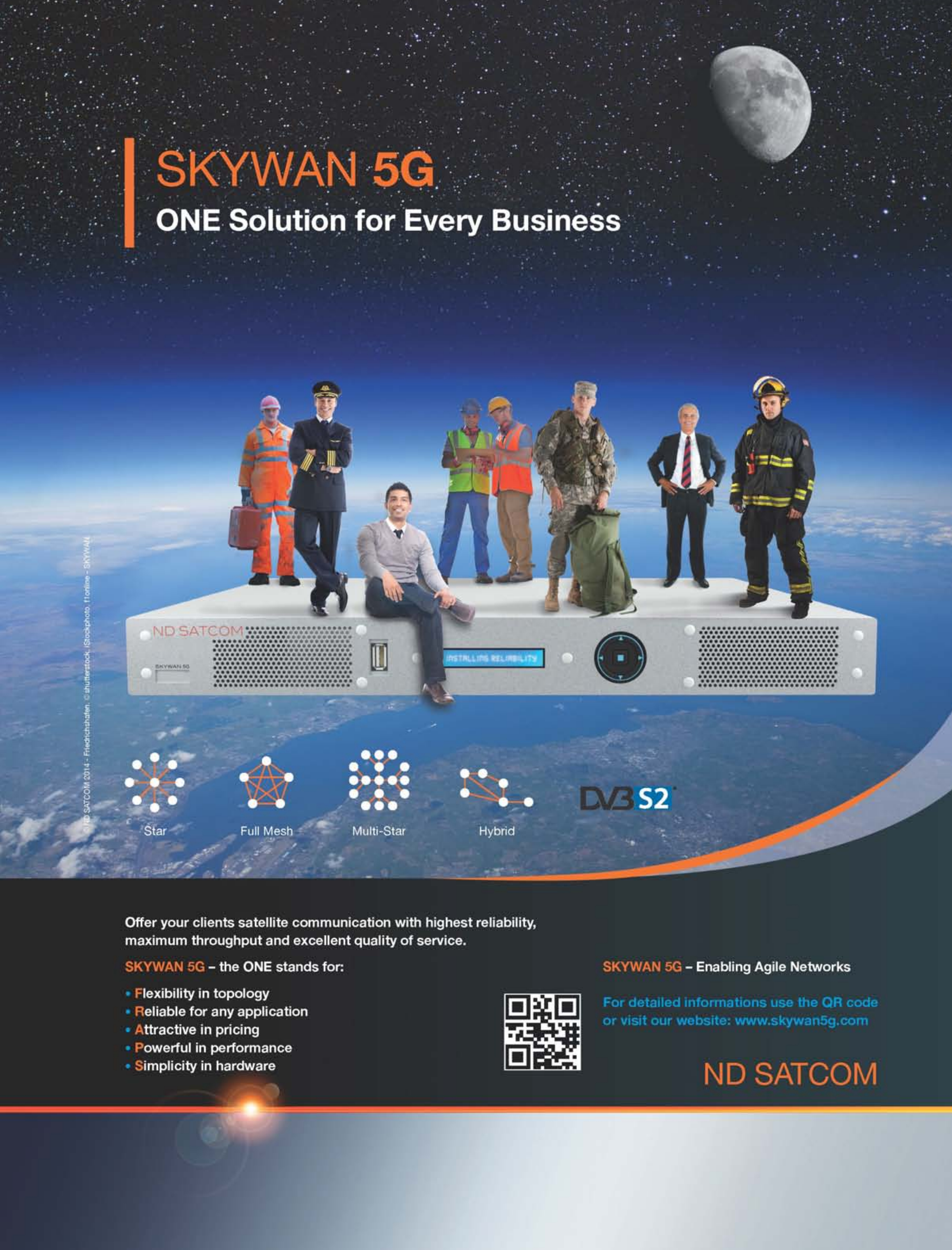
"...Missed DCPs (movies) and live events are costly. Deployment of a professional solution ensures that the network availability is predictable and maximized…"

—Walter Capitani, VP-Marketing, IDC

"The ability to deploy a single device that provides both DCP and live event delivery to cinemas simplified DSAT's operations, and provided the lowest possible cost solution such that the network expansion can proceed as quickly as possible. This is necessary to gain the efficiencies of satellite delivery that occur when serving a large number of sites," Capitani added.

"Our long term relationship with DSAT Cinema is the kind of partnership we like to have with our customers," said Doug Lowther, CEO of IDC. "This alliance also supports our plans to continue developing and enhancing IDC's advanced digital cinema content distribution technology."

"We believe a mutually strong partnership with IDC plays a critical role in the success of our expansion plans to bring smart, cost-effective solutions to cinemas via satellite, virtually anywhere in Europe," said Fabrice Testa, CEO of DSAT Cinema.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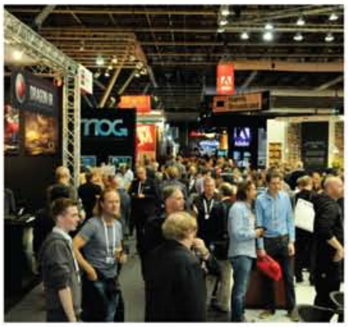


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Products and Services Market*Place*

A guide to key products and services to be showcased at the NAB 2014 in Las Vegas, Nevada, USA from April 7-10, 2014.

Advantech Wireless
booth SU 7113
www.advantechwireless.com

At the NAB 2014, **Advantech Wireless** will give a live demo of its powerful and award winning – Teleport Technology of the year – Broadcast Solution: GaN SSPAs & Multi-carrier modulator MSBM-500 and a live demo of the Next Generation Discovery Adaptive Satellite Access Technology (A-SAT™) platform. At the Advantech Wireless booth no. SU7113, visitors will find Advantech Wireless' leading-technologies, delivering best performance to achieve best ROI in the market.

Advantech Wireless' SapphireBlu™ Series of UltraLinear™ GaN based High Power Amplifiers and BUCs are the ultimate solution for DTH TV. The new multicarrier broadcast modulator MSBM-500 from Advantech Wireless offers the perfect digital broadcast match for the GaN SSPA technology. One multicarrier modulator, IP input, up to 16 carriers output, and one high linearity GaN SSPA/SSPB offers the most efficient and powerful solution for broadcast uplinks.

A-SAT™ is beyond dual mode DVB-RCS/TDMA-SCPC, it monitors channel utilization and switches the satellite access method and MODCOD seamlessly for the return channel to dynamically maximize the space segment utilization efficiency. Additionally, by having TDMA and true SCPC technologies in a single platform, the switch between traffic patterns is efficiently supported and all risks of equipment obsolescence are mitigated.

To set up a meeting with one of Advantech Wireless' experts go to:
www.advantechwireless.com/meeting-request

ATCi
booth SU 6807
www.atci.com

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

AVL Technologies
booth no. SU 6807 and OE 801
www.avltech.com

AvL Technologies' booth at NAB 2014 will showcase our newest 1.8m Vehicle-Mount antenna for SNG applications. This robust antenna will be shown with an aerodynamic cowling and operates in Ku- or C-band. The antenna features an AvL carbon fiber reflector, a high-stiffness azimuth bearing, our proprietary zero-backlash AvL Cable Drive, and a wide boom to allow for larger HPA envelopes. An optional "saddlebag" mounting option is also available for larger HPAs. The antenna stows to a remarkable 18" (46cm).

AVL's new 1.8 vehicle-mount antenna

Also on display will be AvL's new 85cm Ka-band broadband antenna. AvL's Ka-band broadband antenna family is noted for its versatile configurations, high reliability and cost-effective "go-to" solutions for mobile accessibility with High Throughput Satellites.

AvL will also show our newest 60cm, 85cm, 1.2m and 2.4m Manual FlyAway antennas. These antennas are lightweight, compact, portable and robust with carbon fiber reflectors. Packed in rugged, lightweight cases, the 60cm and 85cm antennas are compact enough to pack into backpacks and carry onto a commercial flight, the 1.2m antenna is checkable on a commercial flight, and the 2.4m antenna is air freightable.

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.
booth SU 10817
www.c-comsat.com

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

C-COM has developed a unique proprietary Mobile auto-deploying (iNetVu®) antenna that allows the delivery of high-speed satellite based Internet services into vehicles while stationary virtually anywhere where one can drive. The iNetVu® Mobile antennas have also been adapted to be airline checkable and easily transportable. The company's satellite-based products and services deliver high-quality, cost-effective solutions for both fixed and mobile applications throughout the world.

Cobham SATCOM Land
booth OE 1100
www.cobham.com/satcom

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

Cobham's EXPLORER 5075GX

Regardless of the application, our suite of GX EXPLORER terminals provide the reliability and functionality required to effectively connect users to the GX network for mobile and vehicular use across diverse sectors including Government, Emergency Response, Law Enforcement, Media Broadcasting, Transportation, Enterprise, Energy and Mining.

Comtech Xicom Technology
booth SU 4721
www.xicomtech.com

Comtech Xicom Technology provides a broad product line of KPAs, TWTAs, SSPAs and BUCs for worldwide satellite uplink covering C-, X-, Ku-, DBS-, Ka-, Q-band, Tri- and Multi-band with power levels from 8 to 3,550 watts and available in rack-mount and antenna-mount ODU packages. Xicom is showcasing a number of products including many of the new "Green Powered By Xicom Technology" designed amplifiers focusing on user cost savings including lower power consumption, reduced fuel and charging requirements.

Xicom representatives will be available for SATCOM providers and developers to discuss and obtain technical information on these and many additional amplifier products at the Comtech Xicom Technology booth.

Globecast
booth SU 2706
www.globecast.com

Globecast is a leading-edge content processing and distribution company. Globecast uses the best of satellite, Content Distribution Networks, dedicated fiber and public Internet to make sure that broadcasters' and media companies' content is where it should be when it should be, correctly packaged and formatted. Globecast provides tailored solutions for content providers of all shapes and sizes, creating the technical foundations that power monetization. The company provides multiplatform, multi-device services using its years of experience and business acumen to create the perfect packages for its customers.

At the NAB, Globecast will be showcasing the following services:

OTT managed services: The latest innovations to Globecast's end-to-end managed services for complete OTT content delivery will be on show at NAB. From content preparation to delivery, Globecast offers end-to-end solutions such as OTT Live, Live to VoD and VoD - including monetization tools - to help broadcasters maximise their content. The company's service proposition removes the technical complexities associated with providing content to multiple platforms, in multiple formats, across multiple territories with associated rights issues from the broadcaster.

Globecast playout solutions: Through a unique combination of global resources, cutting-edge facilities, and expert staff on five continents, Globecast delivers scalable playout solutions that align with broadcasters' strategy and budget. Globecast technical centres in London, Singapore and Miami offer a wide range of tailored broadcast management services - such as global media logistics, content management and regionalisation of content – which broadcasters can take advantage of wherever they are in the world.

Globecast XN: Globecast XN is one of a suite of solutions the company offers to its broadcast clients, via which content can be quickly and easily delivered to new markets and audiences around the globe. Using the public Internet, this cost-effective solution can be quickly deployed in a short timeframe to: deliver live channels to IPTV and OTT platforms; allow content providers to expand into new markets while limiting risk; reduce backup link costs significantly; bring feeds from event sites to broadcasters; or to quickly set up a last-mile solution where dedicated fibre is not available.

Globecomm Systems
booth SU 6221
www.globecomm.com

At the NAB, **Globecomm** will be highlighting its Access Connectivity Services. When you are looking for connectivity, you need global reach, high quality and the ability to delivery data, video and voice anywhere under almost any conditions. To meet that need, Globecomm Global Network which consist of satellite and fiber connectivity, offers a wide range of services for voice, data, Internet and video that leverage our global transmission capacity and our network of data center, content management and switching facilities. Globecomm's Access services include:

Access Plus, a suite of transmission and network services for secure IP connectivity, VOIP and data communications worldwide

Access Maritime which offers ship owners, ship managers, officers and crew a single, powerful, cost-effective platform for communications worldwide.

Access Video, a complete video transmission solution supporting live broadcast-quality video contribution and distribution as well as file distribution and videoconferencing.

Hispasat/ Hispamar Satélites
booth SU 9821
www.hispasat.es

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

Amazonas 1 and Amazonas 2 are two of the biggest and most powerful satellites serving the American Continent and operate collocated at 61º W offering both C- and Ku-band capacity, with immediate availability of high quality Ku -band capacity for North America. Last year it launched the Amazonas-3 satellite which includes nine Ka-Band spot beams—the first Ka-Band capacity made available for the Latin American market. It's most recent addition to its fleet is the Amazonas 4a satellite just launched last month.

Narda Test Solutions
go to A.G.Franz, LLC booth SU 10404
www.agfranz.com/narda-satellite/

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

Narda Remote Spectrum Analyzer NRA

At the NAB Show Narda's North American distributor A.G. Franz, LLC will be showcasing the **Narda Remote Spectrum Analyzer NRA 6000**. The NRA is a 1RU rack mountable, high speed (12 GHz/sec), low-power fan-less test-equipment that can be easily integrated and remotely controlled in various monitoring systems. The wide bandwidth (9kHz-6GHz) of the NRA-6000 enables the operator to simultaneously monitor a variety of signals with up to 600,000 samples per sweep.

The NRA-3000 model (9kHz-3GHz) is optimized for satellite signal interference monitoring and troubleshooting. The optional high-speed I/Q data streaming capability is ideally suited for signal identification and characterization.

ND SatCom
booth OE 304
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 the NAB, ND SatCom will be highlighting its new SKYWAN 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, multi-star or hybrid topologies with Communications-on-the-move (COTM) support. Each unit can act either as a hub or master station, therefore adding agility in terms of its network role.

Measuring in at only 1 RU the SKYWAN 5G is the smallest hub device on the market.

Newtec
booth SU 3421
www.newtec.eu

Newtec will be showcasing at the NAB 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-TDMA, it now includes a third revolutionary patented return link technology called Mx-DMA™. Together with the new HighResCoding™, it combines the best of both worlds and enables services to run more efficiently than ever before over satellite.

The Newtec Dialog® platform consists of hub(s) and terminals. The Newtec Dialog Hubs are modular and scalable and can be configured in different sizes to fit the needs of customers. This picture shows the HUB6501 1IF and the HUB6504 4IF Hub Modules.

Peak Communications
booth SU 6224
and A.G. Franz LLC booth # SU 10404
www.peakcom.co.uk

Peak Communications manufactures professional RF equipment for Satellite earth stations: Block, fixed and agile (synthesized) frequency converters, test-loop translators, beacon receivers, automatic uplink power control units, line amplifiers, modular gain control units, splitters & combiners, DC & 10MHz drivers for BUC/BDC/LNB units, 10MHz reference generation & distribution, distribution switching and noise sources.

Peak Blockconverter DBUH200 platform

Many of the products are available in **multi-channel configurations**, allowing the simultaneous conversion or signal conditioning of the same frequency range.

The equipment is provided in **three physical configurations**: remote, weatherproof units for a compact outdoor solution; ½ rack, modular, hot-swappable units to offer the ultimate in maintainability; fixed dual, triple or quad-bands/ranges in 1RU chassis for a compact indoor solution.
At the NAB Show Peak will be showcasing the **modular, hot-swappable Blockconverter DBUH200 platform**. The compact 1RU rack-mounted unit is designed to accept any combination of available converter modules (C-, X-, Ku-, DBS- and Ka-Band) and offers a full 1+1 redundant system. It can also be configured to provide separate BUC/BDC channels, test-loop translators and line-amplifiers.

ScheduALL
booth SU 3021
www.scheduall.com

ScheduALL, the leading global provider of Enterprise Resource Management (ERM) software for media and transmission, will showcase its booking platform, ScheduALL Connector™ at the 2014 NAB Show. The smart technology behind ScheduALL Connector™ gives customers of transmission providers the tools to book their own bandwidth.

ScheduALL Connector™ is a direct link for the Occasional Use (OU) business to its customers. The booking platform takes error-prone manual processes, duplicate efforts and conflicts out of the booking procedure. Furthermore, the tool provides a centralized view of a global resource network for both the provider and the customer, increasing revenue through maximized utilization.

"Connector is going to turn a lot of heads at NAB," said Rick Legow, president at ScheduALL. "We are giving our clients the capability to connect directly with their customers for instant access to resource booking. It vastly improves the way our clients do business with their customers."

A unique benefit of ScheduALL Connector™ is its potential to boost global sharing, trading and selling across the media and broadcast industry, and even create new partnerships within it. ScheduALL has built trusted partnerships for twenty-five years, and Connector unifies these companies in a global network.

To schedule a demonstration and learn how ScheduALL's industry-changing smart technology can meet the unique challenges of your organization, please call (954) 334-5400 email events@scheduall.com or visit www.scheduall.com/events.

Work Microwave
booth no. SU 8525
www.work-microwave.de

Exhibiting for the first time at the NAB, **WORK Microwave** will demonstrate significant enhancements to its DVB-S2 Broadcast Modulator, Video ACM System, and Fifth-Generation Frequency Converter Series. Leveraging the new improvements, operators can optimize satellite bandwidth, improve signal quality, and reduce operating expenses.

The DVB-S2 Broadcast Modulator's most recent improvement — carrier ID support — defines the modulation, channel coding, and signaling protocol intended for the identification of the host carrier. This allows operators to eliminate or reduce radio frequency interference between satellite signals to deliver a higher quality of service to customers.

A key highlight at the NAB will be WORK Microwave's Video ACM System, an integrated data/video (DaVid) modem and encoding solution for enhanced video contribution. Combining WORK Microwave's DVB-S2 Modem SK-DV and the EN-91 MPEG-4 HD ultra-low delay encoder from Adtec Digital, Video ACM automatically improves an operator's satellite link budget, enhancing video quality and reducing operational expenses.

The Video ACM solution can transport multiple MPEG transport streams — up to six — and IP data into a DVB-S2 multistream, enabling simultaneous transportation of data (network connection) and live broadcasting (video content) over a single satellite carrier. Multichannel ACM functionality dramatically reduces the margin traditionally required for rain fade, enhancing video quality. Satellite link performance is optimized in real time as link and weather conditions change, resulting in increased link availability and cost savings for satellite operators. Transport stream null packet deletion and re-insertion further optimize satellite capacity, enabling operators to reuse bandwidth for IP data. As the MODCOD changes, WORK Microwave's DVB-S2 Modem SK-DV seamlessly communicates with Adtec Digital's EN-91 encoder and automatically changes the video rate, ensuring the best possible video quality and optimum bandwidth allocation.

Walton De-Ice
booth no. OE 812
www.de-ice.com

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

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

At the NAB, Walton will be introducing its new lower-cost Snow Shield Antenna Covers Walton's **Snow Shield** antenna covers keep snow and ice off your dishes, with these new advantages:

- Now with two new fabric cover and coating options.
- Up to 5X useful life of competing products!
- No warm weather removal downtime - stays on year-round unlike others!
- Works as Passive system, or with Electric or Gas Heater De-Icing .

EXPLORER PRODUCTS

Global, Mobile Satellite Communication Solutions

COBHAM

The most important thing we build is trust

Cobham SATCOM offers the most comprehensive range of land-mobile satellite communication terminals in the market covering both BGAN and VSAT.

The EXPLORER range of terminals fulfills critical communications needs and reduce system configuration requirements for end users through highly reliable and easy-to-use solutions.

The EXPLORER 5075GX will provide Inmarsat's upcoming Global Xpress® superfast Ka-band service, delivering download speeds of up to 50 Mbps and 5 Mbps over the uplink. The EXPLORER 710 is the first BGAN terminal to deliver Inmarsat's High Data Rate on-demand streaming IP service.

Visit us at NAB, booth OE1100 in the outside area.

EXPLORER 5075GX

Ultra High-Speed VSAT Terminal

- Lightweight 0.75m Auto-Deploy Fly-Away VSAT with a four-piece carbon fiber reflector
- Configured for seamless global operation on the new Inmarsat Global Xpress® (GX) Ka-band network
- User-friendly design allows operators with little satellite experience to access GX Ka-band services within minutes

EXPLORER 710

Ultra-Portable BGAN Terminal

- The first and only BGAN terminal to support BGAN HDR providing a minimum throughput of 580kbps
- From backpack to live broadcast in only a few minutes enhancing the quality of mobile outside broadcasting
- Connectivity made simple using your Smart Phone or tablet PC to control the terminal

For more information on Cobham SATCOM:
Call SATCOM Land VSAT (Orlando, USA) office: +1 (407) 650 9054
Call SATCOM Land BGAN (Lyngby, Denmark) office: +45 39 55 88 00

www.cobham.com/SATCOM

Kudelski Group to Acquire Conax AS

Cheseaux-sur-Lausanne, Switzerland, March 26, 2014 – The Kudelski Group has signed a definitive agreement to acquire Conax AS from Telenor Broadcast Holding for approximately CHF 200 million (approximately US$ 226 million). Headquartered in Oslo, Conax is a provider of content protection for digital TV services over broadcast, broadband and connected devices.

Conax provides telcos, cable, satellite, IP, mobile and terrestrial operators with flexible and cost-effective solutions for the secure delivery of premium content, including its latest generation security platform, Conax Contego™, which offers content protection across multiple consumer devices and operator platforms.

"We are very pleased to welcome the Conax team to the Kudelski Group," said André Kudelski, Chairman and Chief Executive Officer of the Kudelski Group. "Their geographic footprint and solution portfolio are complementary to Nagra. With this acquisition, we further expand our customer portfolio in Asia, Latin America, Eastern Europe and Scandinavia."

Conax's customer base will benefit from the Kudelski Group's broad portfolio of products, including its next-generation OpenTV5 middleware, multiscreen/OTT solutions and SmarDTV's advanced conditional access modules, according to a company statement.

Vislink Completes Acquisition of Pebble Beach Systems

London, UK, March 19, 2014--Vislink plc has completed the acquisition of Pebble Beach Systems for a total consideration of £14.9 million (approximately US$ 24.8 million), comprising £12.9 million payable in cash and £2.0 million represented by the issue of 4,700,904 new Vislink ordinary shares at a price of 42.545 pence per share, being the average mid-market closing price of Vislink's shares for the last 25 business days before, but not including, the day of completion.

Pebble Beach Systems has been purchased with in excess of £5.9 million cash on the balance sheet, resulting in an effective net consideration of £9.0 million.

The cash consideration will be funded out of existing Group resources and a new £10.0 million debt facility. The Facility has a three year tenor and is split into a £3.0 million amortising term loan and a £7.0 million flexible revolving credit facility. The Facility charges are on normal commercial terms.

Founded in 2000, and employing over 60 staff, Pebble Beach Systems is a developer and supplier of automation, 'channel in a box' and content management solutions for TV broadcasters, cable and satellite operators. The business is headquartered in Weybridge, Surrey with offices in the USA, Dubai and Singapore.

Pebble Beach Systems has developed a portfolio of software products, which have the flexibility to support a wide range of broadcast applications. Its automation products are suitable for multichannel playout as well as high pressure live programming environments such as news or sports, whilst supporting new technologies such as HD, IPTV and interactive television. Clients include TV Globo Brazil, MBC UAE, Fox News, KCET USA, Bandeiraintes Brazil, OSN UAE, Viasat UK and ZDF Germany, with installations in over 60 countries.

The acquisition of Pebble Beach Systems will move Vislink into the provision of software solutions for playout with advanced software technology, according to the company.

The company's existing capabilities of offering broadcasters wireless communication systems for the capture of live TV coverage of news, entertainment and sports events will now be complemented with world class television automation and media management services for broadcast studios. Vislink will now be able to offer broadcasters a complete 'scene to screen' solution. Furthermore Pebble Beach Systems will gain from access to significantly increased sales channels through the global network of over 900 broadcasters that Vislink works with as well as its international network of offices, the statement added.

Harris Broadcast Splits into Imagine Communications and GatesAir

New York City, March 18, 2014--Harris Broadcast has announced plans to split into two, under the new brands of Imagine Communications and GatesAir. Imagine Communications will be headquartered in Dallas, with Centers of Excellence in Denver, Toronto, Los Angeles, Tel Aviv and Beijing. Harris Broadcast made the announcement at its inaugural MediaDay held at Madison Square Garden in New York City.

The company's five decades of media software and networking innovation has secured more than 3,000 customers spanning 185 countries, with more than three million products deployed that support over half of the world's video channels, along with a rich portfolio of patents.

GatesAir will be headquartered in Cincinnati, Ohio, with its manufacturing, supply chain and fulfilment centre in Quincy, Illinois. GatesAir has been supplying over-the-air TV and radio transmission innovation for nearly 100 years.

"With vibrant new identities and focus, Imagine Communications and GatesAir are well positioned to serve our industry and customers," said Charlie Vogt, CEO of Imagine Communications and GatesAir.

"Our vision, product direction and strategy further align Imagine Communications and GatesAir with today's transformational trends, the networks of the future and our customers and partners," said Vogt.

"We have created two laser-focused companies that are innovating across different ends of the technology spectrum. Imagine Communications will lead the media and entertainment markets to a future defined by IP, software, the cloud, and TV everywhere, with an architecture vision for delivering and monetising multiscreen content. Likewise, GatesAir will continue to lead the next-generation TV and radio over-the-air market, with a focus on providing wireless innovations that reduce power consumption and carbon footprint, while leveraging the growth in digital radio and TV transmission across the globe," Vogt added.

Fox International Channels' Jesus Perezagua Steps Down

Los Angeles, Calif., March 24, 2014--**Fox International Channels** (FIC) President for Europe and Africa **Jesus Perezagua** will be stepping down effective April 30. He will consult for companies in the group after that date.Hernan Lopez, president and CEO said that a search will begin immediately for a successor.

Perezagua first joined the company in 2003 as managing director of FIC Spain and Portugal. In 2005 he was tasked with directing the company's expansion across Eastern and Central Europe, Turkey and Greece. He was named president of Europe and Africa in 2011.
FIC, a unit of 21st Century Fox, which operates some 324 branded channels reaching a total of more than 1.6 billion subscribers worldwide.

Perezagua began his career at FIC in 2003, joining the group as managing director of FIC Spain and Portugal. From 2005, he headed up the company's expansion across Eastern and Central Europe as well as Greece and Turkey before taking over for the entire European and African operations in 2011.

Jesus Perezagua

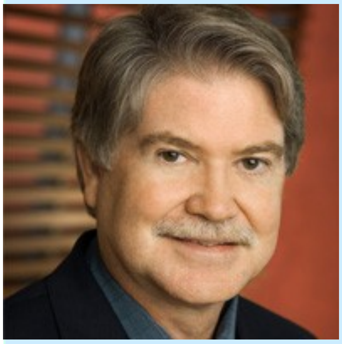
SSPI Names Dianne VanBeber of Intelsat as Chair and Chris Stott of Mansat as President

New York City, March 10, 2014 - The Society of Satellite Professionals International (SSPI) announced the appointment of **Dianne Van Beber**, Vice President, Investor Relations and Communications for **Intelsat,** as Chair of the Board, and of **Chris Stott**, Chairman & CEO of **Mansat,** as President.
Elected to their first terms on the Board of Directors are **Ed Giovannini**, Vice President, Programmer Sales, Ericsson; **Erwin Hudson**, Chief Technology Officer, Wildblue; **Dave Rehbehn**, Senior Marketing Director, Hughes Network Systems; and **Alan Young**, Chief Technology Officer, Encompass Digital Media.
SSPI also announced two directors re-elected by the membership. **Mike Aloisi**, Vice President, Distribution Technology, Satellite & Affiliate Services for Viacom, and **Tony Rayner**, Senior Vice President, Business Development for Eutelsat were re-elected to their second terms on the SSPI Board of Directors. Tony Rayner will be serving as the Secretary.
SSPI's Board represents a cross-section of the commercial satellite business, from manufacturing to launch to services, and from one side of the globe to the other.

Continuing their service on the Board of Directors are:

Discovery Communications Founder John Hendricks to Retire

Silver Spring, MD, March 20, 2014- **Discovery Communications'** founder John Hendricks will retire as Chairman of the company's Board of Directors and as a Director of the Board. He will remain in his current position through the annual meeting of shareholders on May 16, 2014.



"Few words can appropriately convey what kind of person John is, or what he has meant to this company and the cable television industry overall. He is a true visionary, a man of enormous integrity and one of the world's great entrepreneurs. On behalf of the 5,600 employees of Discovery Communications, I want to thank John for all that he has done, and all that he has stood for, as Founder and Chairman of Discovery for more than 30 years, and believing the world needed a different kind of media company – a purpose-driven media company," said David Zaslav, President and CEO of Discovery Communications.

Hendricks has served as Chairman and Founder of Discovery Communications, preceding and including the launch of the Discovery Channel on June 17, 1985. He stepped down as CEO in 2004 and remained Chairman of the Board. Hendricks created Discovery Channel as the first cable network in the United States to provide high-quality documentary programming enabling people to explore their world and satisfy their curiosity. Hendricks pioneered the launch of digital networks in the United States in the 1990s and launched the first 24/7 basic cable HD channel, Discovery HD Theater, in 2002. He has been honored with a Primetime Emmy Award and with the Academy of Television Arts & Sciences highest honor, the Governor's Award, for conceiving the TLC series, *Great Books*. The Ark Trust named him a recipient of the Genesis Award for lifetime achievement for his efforts in raising awareness around the globe about animal issues. Hendricks also has been recognized as the first corporate leader to receive the National Education Association's Friend of Education award for innovations in education and technology and greatly expanding educational opportunity for America's schoolchildren.

- **Dawn Harms**, Vice President, Sales, Marketing and Communications, International Launch Services (Treasurer);
- **Tom de Baere**, Director of Marketing, Newtec;
- **Didier Debellemanière**, President, Abyvia;
- **Christine Erhenbard**, Director, Broadcast Distribution, CBS.

EchoStar Satellite Services Names NASA Veteran as VP, Spacecraft Operations and Engineering

Englewood, Colo., Mar. 11, 2014 -- The former NASA Flight Director **Jerry Jason** has joined **EchoStar Satellite Services, L.L.C.** (ESS), a wholly-owned subsidiary of EchoStar Corp., as vice president, spacecraft operations and engineering.

Jerry Jason

"Jerry brings a wealth of spacecraft operations experience to EchoStar," said de Bastos. "His expertise will be instrumental in strengthening and growing our operations organization as we continue to expand the EchoStar fleet."

Jason joins ESS from the NASA Johnson Space Center, where he served 18 years in the Mission Operations Directorate. During his tenure, he was a flight controller for more than 30 Space Shuttle missions and, for the past 6 years, was a flight director for the International Space Station (ISS). As flight director, Jason was one of the few select individuals responsible for real-time operations of the ISS and successfully completed the ISS Expedition 23/24 missions and two automated transfer vehicle (ATV) resupply missions.

Gen. Kehler Appointed to Inmarsat Board

London, UK, March 20, 2014 – Inmarsat announced that **General C. Robert Kehler,** United States Air Force (Retired) will join the Board on May 6, 2014 as an additional non-executive director. General Kehler retired from the Air Force in January 2014 with over 38 years of service.

Gen. Kehler

Prior to his retirement, General Kehler served as Commander, U.S. Strategic Command from January 2011 to November 2013. In that position he was directly responsible to the President and Secretary of Defense for the plans and operations of all U.S. forces conducting strategic deterrence, and Department of Defense space and cyberspace operations. Prior to that assignment, he served as Commander, Air Force Space Command from October 2007 to January 2011.

As commander of Air Force Space Command, General Kehler was responsible for the development, acquisition and operation of the Air Force's space and missile systems. He oversaw a global network of satellite command and control, communications, missile warning and launch facilities, and ensured the combat readiness of America's intercontinental ballistic missile force.

Over his career, General Kehler served in a variety of important operational and staff assignments, and successfully led large organizations with global responsibilities.

General Kehler will also become a member of Inmarsat's Remuneration Committee.

Spaceflight Inc. Promotes Curt Blake to President

Seattle, Wash., March 6, 2014--Launch services provide **Spaceflight Inc.** has promoted **Curt Blake** as its new President. Blake, previously served as Senior Vice President and General Counsel.

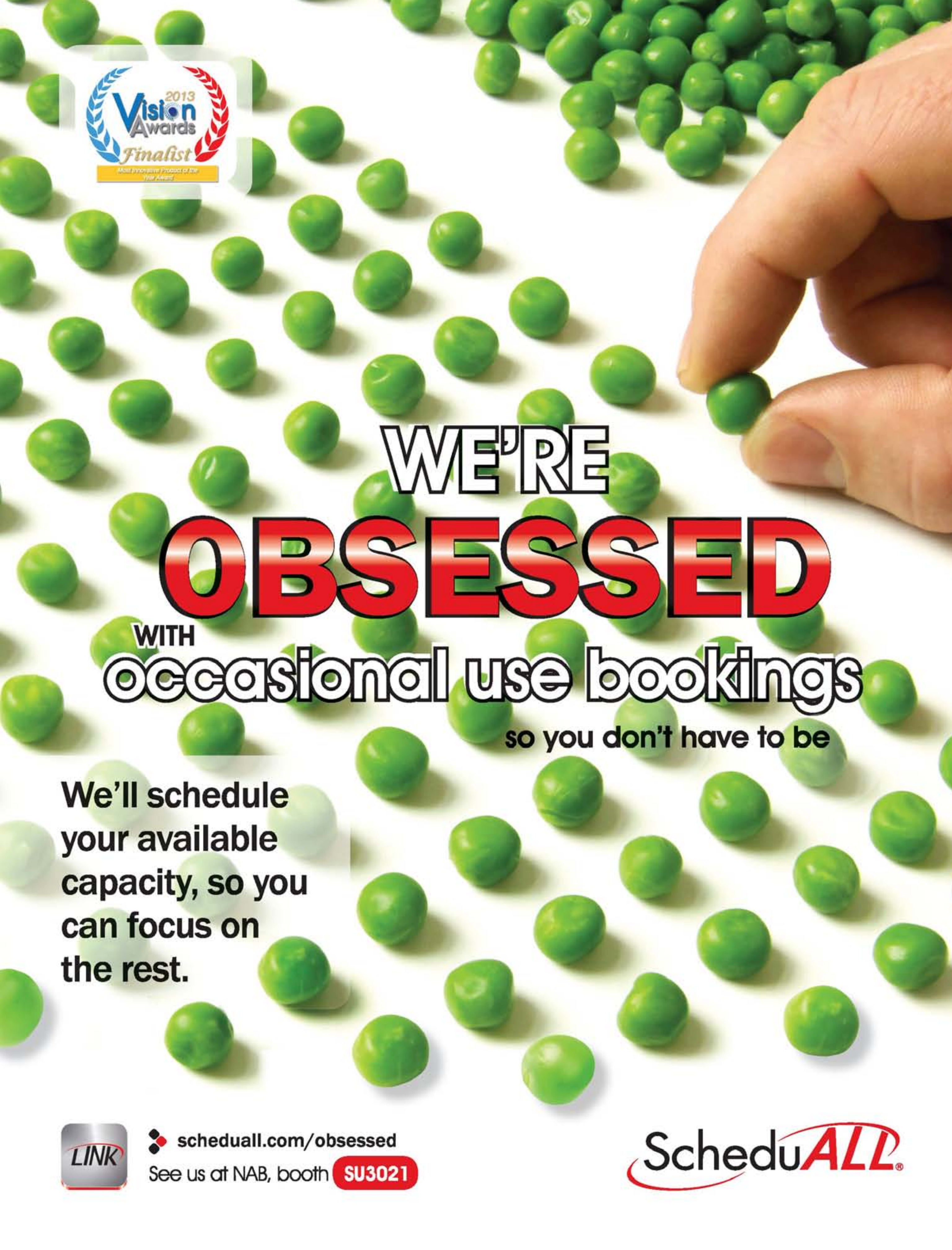
Blake has more than 25 years of executive experience in high-growth and tech industries, with past experience including a range of senior executive and general counsel roles at Microsoft, Starwave, Corbis and Aldus.

Spaceflight helps organizations launch small satellites into space by offering a "one-stop-shop" service that manifests, certifies and integrates multiple auxiliary payloads onto a single launch vehicle. Spaceflight contracts excess capacity on its worldwide network of partner launch vehicles, thereby enabling cost-effective launch services for small-satellite customers while securing additional revenue for the launch service provider.

Curt Blake

In the last three years, Blake oversaw Spaceflight's first four commercial rideshare launches, on the Antares, Soyuz and Dnepr vehicles, from sales to mission management to launch. Blake is a current member of the Commercial Spaceflight Federation Board and contributor to numerous small-satellite conferences.

Spaceflight specializes in the launch of CubeSats, nanosats and microsats with masses between 1 kg and 300 kg. Since 2011, Spaceflight has launched more than 36 satellites with more than 50 in the pipeline through 2015.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See us at NAB, booth SU3021
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Belcher Appointed to Signalhorn Board

Luxembourg, March 4, 2014 – Veteran aerospace and defense executive **John Belcher** has been named to the Board of Directors of **Signalhorn**, a global provider of premium network and communications services using terrestrial, satellite, and wireless technologies.

Belcher is the former Chairman and CEO of ARINC, an Annapolis, MD-based provider of transport communications and systems engineering solutions to aviation, defense and government customers. He has more than 30 years of experience in the aviation, aerospace, airports, information technology, network services and defense industries.

John Belcher

Belcher's previous executive positions include President and CEO of Hughes Aircraft of Canada, Ltd.; Vice President of Hughes Aircraft Company; President and CEO of Thompson-Hickling Aviation; Senior Vice President of SPAR/PRIOR Data Sciences; Executive Director of Transport Canada; and Director General of Supply and Services Canada. He has also served as Chairman of the Canadian Advanced Technology Association; on the President's Advisory Board at the University of Waterloo; and on the Board of Directors for numerous trade associations and aerospace technology companies.

From 2002 until January 2014, when ARINC was sold to Rockwell Collins, Mr. Belcher led the company with 3,200 employees and global operations. During that period, he received the Maryland International Business Leadership Award and was named Business Leader of the Year for Annapolis and Anne Arundel County.

Until 2013, ARINC was owned by The Carlyle Group, a Washington, DC-based investment fund. The Carlyle Group named Mr. Belcher the 2013 recipient of its Louis V. Gerstner, Jr. Excellence award for leadership and management excellence.

Calendar of Events

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

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

April 29-30, 2014, **VSAT Latin America 2014**, Sao Paulo, Brazil, contact:
phone +44 (0)207 017 7707 Web: www.latinamerica.vsatevent.com/

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

June 4-5, 2014, **LATSAT 2014**, Mexico City, contact: Lorraine Whitfield,
Tél : + 33 1 49 23 75 13 E-mail: whitfiled@euroconsult-ec.com
Web: www.latsat-congreso.com/en/

June 16, 2014, **CASBAA Satellite Industry Forum 2014**, Shangri-La Hotel, Singapore, Contact: Cherry Wong, phone +852 3929 1714,
E-mail: cherry@casbaa.com, web: www.casbaa.com

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

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

August 24-27, 2014, **SET EXPO 2014**, Sao Paulo, Brazil,
E-mail: paulo.galante@set.org.br , Phone: +55 11 99595-7791
Web: www.setexpo.com.br

Conference: 11 - 15 September 2014, Exhibition: 12 - 16 September 2014, **IBC 2014** - RAI Amsterdam, the Netherlands, E-mail: info@ibc.org, Phone +44 (0) 20 7832 4100, Web: www.ibc.org

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

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

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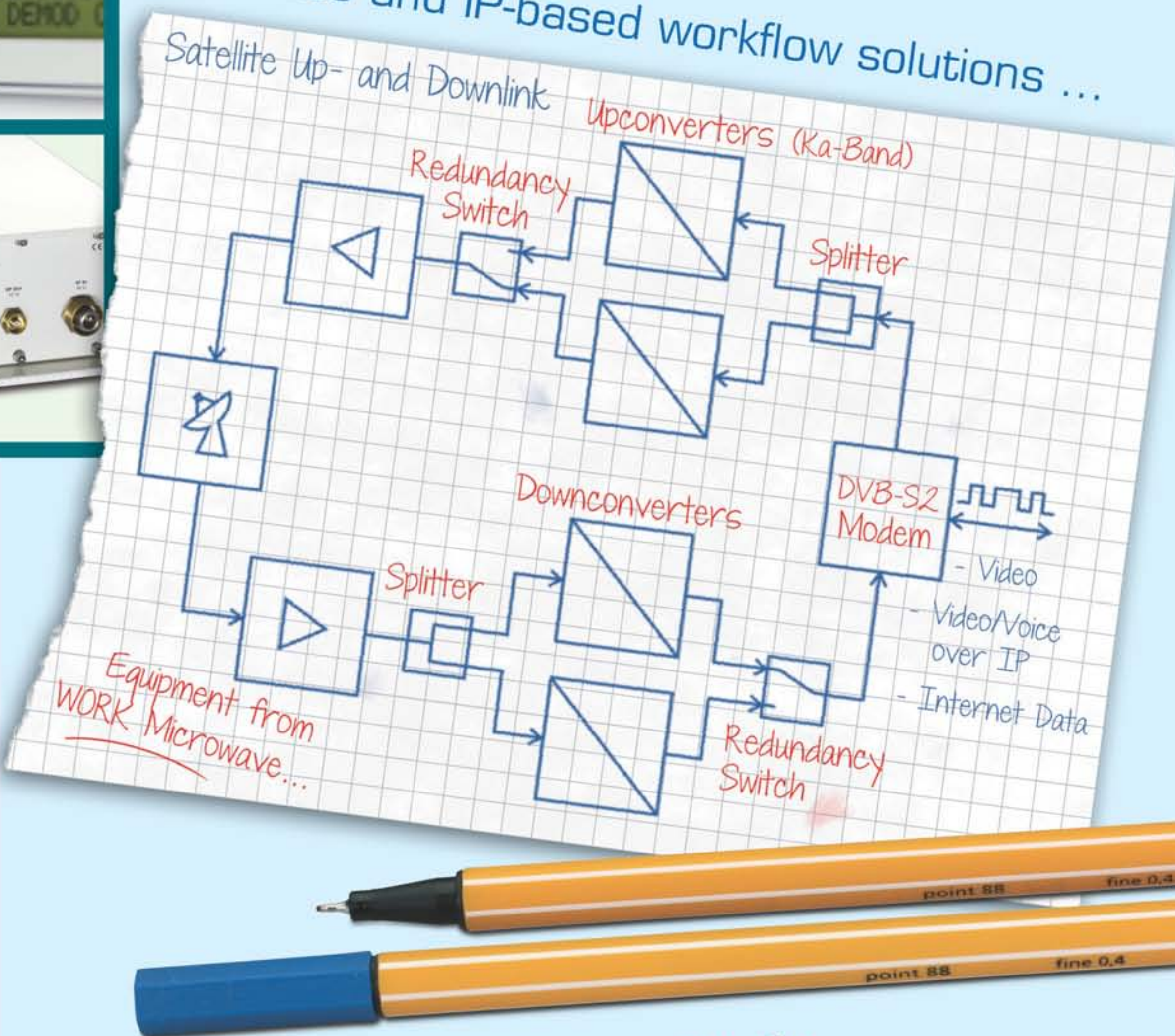


✓ IP-Network over Satellite

✓ Video Contribution and Distribution

✓ DaVid Technology (combined data and video distribution)

www.work-microwave.de

Content Management and Distribution Services Reach US$ 192 Billion

"...The emergence of non-linear will lead to the diversification of revenue trends which is a positive change in the industry. We should continue to see more satellite operators with terrestrial segments shifting their business strategy to adapt to consumer needs and leading service providers acquiring non-linear service providers..."

Paris, France, March 25, 2014- According to Euroconsult's newly released research report, *Video Content Management and Distribution*, the global TV and video market is up US$ 31 billion since 2008 and is currently estimated at US$ 192 billion, with the production sector capturing the majority of revenues.

The Content Management Distribution (CMD) market is still dependent on the distribution of linear TV channels, representing 30,000 satellite TV signals and 23,000 unique TV channels in 2013. Nevertheless, non-linear content growth continues to accelerate, including over-the-top content (OTT) and mobile video, impacting service revenues while prompting specialized CMD providers to expand their service offering.

"The emergence of non-linear will lead to the diversification of revenue trends which is a positive change in the industry. We should continue to see more satellite operators with terrestrial segments shifting their business strategy to adapt to consumer needs and leading service providers acquiring non-linear service providers," said Marc Welinski, Euroconsult's Deputy Director of Broadcast & Broadband and a contributor to the research report.

Image courtesy of IBM

Growth in linear channels is led by emerging digital markets including the Latin America, Asia, CER and MEA regions which accounted for 80% of new channel launches since 2008. Main drivers in these regions include: the launch of dozens of DTH platforms, the introduction of new digital terrestrial services, the growing availability of HD content and the increasing localization of content.

"In mature TV markets, it is clear that growth in linear channels is largely driven by HD," said Dimitri Buchs, Consultant at Euroconsult and Editor-in-Chief of the report. "We expect to see over 11,000 HD signals by 2023. HD is a significant market driver compared to Ultra-HD which is forecasted to produce less than 500 channels over the decade."

CMD revenues for video contribution services reached US$5 billion in 2013, up from US$ 3 billion in 2008. Growth was largely favored by occasional use services with smaller, lighter and more easy to use terminals (MSS and 3G/4G) accounting for a growing share of terminals, traffic and revenues. Satellite will remain essential for permanent contribution activities, yet its market share should decrease to the advantage of fiber. In the occasional use market, the share of satellite should also decrease to the advantage of 3G/4G services. Satellite revenues should be driven by lower-priced HTS Ka-band services with the share of HTS Ka-band in total occasional use revenues expected to grow from less than 0.5% in 2013 to 18% in 2023.

Revenues from outsourced CMD services reached $3.5 billion in 2013 with Western Europe leading in revenues, ahead of Asia. CMD services are offered by specialized service providers, teleport operators, satellite operators and telecom operators. Globecast, Arqiva, Encompass and RRSat are the market leader, maintaining 35% of the outsourced market in 2012.

Video Content Management and Distribution is designed specifically for service providers, satellite operators, and equipment manufacturers focusing on growing new/existing business in the broadcast sector. The report includes an extensive analysis of the global video content market, as well as the main drivers and dynamics for video contribution and distribution. Profiles of leading service providers and popular OTT case studies are included within the report.

North America to add 5 Mil. Pay TV Subscribers

London, UK, March 20, 2014--Despite all of the talk about cord-cutting, a new report from Digital TV Research forecasts that the number of pay TV subscribers in North America will continue to increase – despite a small decline in 2013. The Digital TV North America report estimates that nearly 5 million more subscribers will be added between 2013 and 2020. However, pay TV penetration will drop from 87.0% in 2010 to 83.8% by 2020.

Most of the pay TV subscriber losses over the last few years have been analog cable subs. There were still 18.39 million analog cable subscribers by end-2010, a number that will fall to 3.75 million by end-2014.

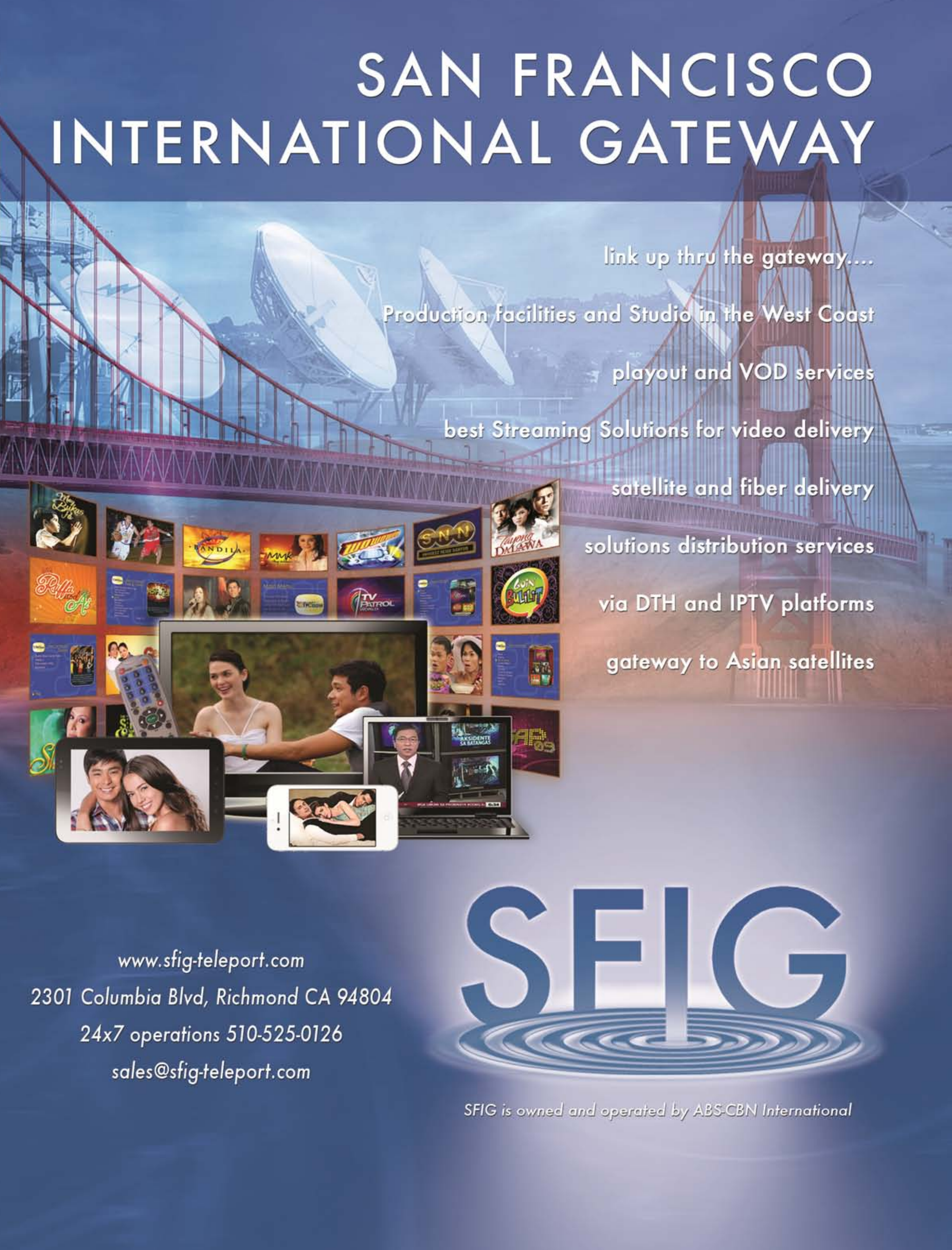
Digital TV penetration reached 94.2% at end-2013, and will increase to 100% by 2017 – the only remaining analog homes take cable. Of the 17 million digital homes to be added between 2013 and 2020, 5.5 million will come from cable, 5.9 million from IPTV, 4.6 million from DTT and 0.9 million from satellite TV.

Pay TV penetration has peaked in Canada and the US. Despite falling pay TVpenetration, the number of pay TV subscribers will climb by nearly 5 million between 2013 and 2020 to 116.6 million. Subscriber numbers fell slightly in 2013.

Simon Murray, Principal Analyst at Digital TV Research, said: "Pay TV revenues [subscriptions and on-demand] in North America peaked in 2013 at $95.36 billion. We forecast that they will fall by $8.75 billion to $86.61 billion in 2020. As the analog cable networks switch off, all pay TV operators will try to outdo each other on promotions, with pricing becoming a more and more important tool." TV ARPU is being forced down as cable operators and telcos convert their subscribers to double-play or triple-play bundles, although blended [overall] ARPU is rising.

Satellite TV will overtake cable to become the largest pay TV platform revenue generator in 2015. However, satellite TV revenues will climb by only $1.2 billion between 2013 and 2020 - to $42.8 billion.

There will be 60.4 million cable homes (all digital) by 2020, down from 62.4 million in 2013 (of which 7.6 million were analog) and 68.2 million in 2010 (18.4 million analog). Cable penetration will be 43.4% by 2020, down from 48.1% at end -2013 and 53.1% in 2010.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Market*Briefs*

Key industry trends and opportunities

Boom Times for HD TV Channels in the Arab World

Amman, Jordan, March 19, 2014--A new report from Arab Advisors Group overviews the High Definition TV channels landscape in the Arab world. The report covers the four satellite providers that target the Arab World: Arabsat, Nilesat, Yahlive, and Noorsat, and the number of HD channels broadcast on each satellite. In the report, Arab Advisors Group provides a comparison between the satellites, and a projection of the number of satellite TV channels serving the Arab World.

"...The number of HD channels covered by the four main satellites was 87 channels in 2012, 103 channels by April 2013, and it increased by 31 channels to reach 134 HD channels by February 2014..."

As of February 2014, the satellites covering the Arab World offered 134 HD channels up from 103 HD channels by April 2013. The number of HD channels constituted around 11% of the total number of satellite channels aired on the four main satellites covering the region.

"HDTV in the Arab World" was released to the Arab Advisors Group's Media Strategic Research Service subscribers on **March 11, 2014**. This report can be purchased from the Arab Advisors Group for only **US$ 950**. The **14-page** report, which has **8 detailed exhibits**, provides a comprehensive analysis of the HD channels in the Arab world, their presence on satellites covering the region, and a description of HDTV technology's features.

Any investment in this report will count towards attending **Arab Advisors' 11th Convergence Summit** on June 2 & 3, 2014 at the Four Seasons Hotel in Amman. Telecom and Media operators can send up to 2 delegates to attend at no charge. More information on the summit can be viewed on **http://www.arabadvisors.com/Convergence/index.htm**

"TV has not only improved in terms of colors, images, video and audio quality, and reception, but also became a more interactive experience with the High Definition TV technology, where the number of HD TV channels have grown by 30% from April 2013" Ms. Noor Asmar, Arab Advisors' Research Analyst wrote in the report. "The number of HD channels covered by the four main satellites was 87 channels in 2012, 103 channels by April 2013, and it increased by 31 channels to reach 134 HD channels by February 2014" Ms. Asmar added.

By end of 2017, Arab Advisors Group projects the Arab World's Satellite Pay TV subscriptions to increase to 19 million with total market revenues reaching US$ 2.5 billion.

As of February 2014, five Satellite Pay TV providers targeted the Arab World. In a new report, the Arab Advisors Group provides a detailed analysis and projections of the satellite Pay TV market in the Arab World.

Arab Advisors Group compared the main KPIs of the five Pay TV providers in the Arab World; OSN, beIN Sports, Abu Dhabi Sports, Al-Majd AND MYHD. With the entrance of MyHD in 2013, the number of Pay TV providers in the Arab World totaled five. The Arab Pay TV market still contains the ability of growth and can accommodate other players.

"The Arab Advisors Group expects the Pay TV market to continue to have a steady paced growth for the years 2014 - 2017. The Arab Advisors Group projects Pay TV's total market subscribers' base to grow at a CAGR of 12% between the years 2013 and 2017, totaling 18.8 million subscribers by end of 2017. We estimate total market revenues to grow at a CAGR of 11% for years (2013 – 2017) totaling US$ 2.5 billion" Ms. Mai Al-Zeir, Arab Advisors' Senior Research Analyst wrote in the report.

From Dubai to Rio & Aberdeen: A New E+P+SatComs Agenda Horizon

by Martin Jarrold

My column this month begins with a brief follow-up to the **GVF MENASAT @ CABSAT 2014 – Satellite Interference Summit**, which took take place at the **Dubai International Conference & Exhibition Centre (DICEC)** on 12th and 13th March.

The **Summit** addressed satellite RFI issues in two distinct parts: Part 1 focusing on **"Proactivity"**, looking at Challenges & Preventative Measures, and Part 2 focusing on **"Reactivity"**, examining Challenges & Mitigation Approaches, and comprised a mix of presentations, Q&A, and panel sessions. Presentations from the **Summit** covering such themes as: **ITU Proactivity and Reactivity to Ensure Interference-Free Satellite Services**; **MENA's Satellite Broadcast & Telecoms: An Overview of Today's Market Environment**; **Improper Installations and Training & Certification**; **Wireless Interference and Spectrum Security Initiative**; **Sub-Standard Equipment and Product Quality Assurance**; **Information Sharing and Geolocation & Space Data**; **MENA's Regulatory-Interference Interface: Addressing Interference Matters & Avoiding Interference Incidents**; **Deliberate Interference and the Arab States Broadcasting Union (ASBU) Tunis Action Plan: Implementing Solutions for MENA**; **Unidentified Carriers and Carrier ID**; and, **Dysfunctional Networks and Network Validation**. The Summit speakers represented the following organizations: Access Partnership || Arab Advisors Group || Arab States Broadcasting Union || Arabsat || Avanti Communications || Eutelsat || GVF Training || International Telecommunication Union || MenaNets || Newtec || Sat Corporation || Satellite Interference Reduction Group || SES || Sky-Stream || Talia.

When one thinks of Dubai in general terms, of course one thinks of oil – that is, well-established exploitation of long-charted and significant reserves. Interestingly, the year 2013 saw something of a hydrocarbons exploration regression in high-profile "frontier" parts of the global oil & gas patch – notably offshore of western Africa from Sierra Leone to the north and Angola to the south – making the year one of the worst for successful new oil discoveries since 1995. As a result, the exploration-led oil companies have been badly affected, and a number of oil majors are changing the emphasis and focus of their "frontier" activity. This refocusing may potentially result in some degree of scaling-back on new oil frontier exploration activity and lead to adjustments in the energy sector's attention, more towards ***new*** gas, rather than towards ***new*** oil, whilst at the same time consolidating attention on examples of such other established oil reserves, like those of the Gulf of Mexico, and also on Brazil's more-recently identified, but proven, offshore reserves.

The Middle East is enjoying a broadcasting boom, as evidenced at the recent CABSAT 2014 exhibition held in Dubai, UAE. However, the Middle East also has the highest levels of satellite interference occurrences in the world. (image: DWTC)

Brazilian Government financial and other incentives, together with investments by foreign energy companies, have encouraged international technology companies to help take advantage of the opportunity presented by the potential of Brazil's "Big Oil". Of course as is now well recognized, with "Big Oil" has come "Big Data" – the specialism which focuses on solutions and services to store, manage, protect and analyze information extracted from the large volume of data generated by the oil industry, much of which is increasingly generated out of the rapidly expanding satellite communications/Machine-to-Machine (M2M) interface, a theme comprising part of the agenda for the GVF-EMP conference **Oil & Gas Comms Brazil 2014: Big Oil, Big Data – The Deepwater Ocean Expanse**.

This event – which will take place at the **Windsor Plaza Copacabana Hotel** in **Rio de Janeiro** on 15th & 16th April 2014 – brings the GVF-EMP Oil & Gas Communications Series to its 20th event, and to the fourth annual confer-

ence in the global Series to address the communications networking imperatives of the Brazilian region of the global 'oil & gas patch'. The continually strengthening rationale for a Brazil-oriented oil & gas communications event – which builds on the successes of the previous three Rio de Janeiro conferences in 2011, 2012, and 2013 and of the previous 19 conferences of the entire global Series, and which is supported by **Petrobras** as well as being sponsored by **Intelsat**, **Hughes**, and **SES** – which is **O&GCommsBrazil 2014**, offers to the market an ICT-oriented dialogue at the increasingly crucial interface of elevated demand for solutions by the energy vertical and the supply of those solutions from the communications, primarily satellite communications, industry.

Over two days of discussion, **O&GCommsBrazil 2014** will examine the full range of satellite-based communications, and integrated satellite-terrestrial hybrid communications solutions, to which the oil & gas industry turns to play a vital role in providing the essential connectivity and access to vital applications. Mission critical operational success in the upstream exploration and production (E&P) environment is dependent on access to the most efficient ICTs, and to a wealth of sophisticated applications which generate massive volumes of disparate data in multiple formats (including GPS, acoustic, compass and other sensor data), that is rendered available to teams of geologists, geophysicists, drilling engineers, seismic data analysts, etc., who use the information for predictive analysis.

As noted, M2M communications is now a key connectivity focus for oil & gas E&P. Dialogs concerning the interface and synergy of M2M communications and satellite communications must begin with at least a nod to immediate future-history, noting the longer-term significance of the transitioning to Internet Protocol version 6 (IPv6). It is IPv6 which will bring on the full potential of the Internet of Things, and it is the IoT which will be the ultimate realization of a future universal M2M environment which will far exceed the potential boundaries and limited scope of even the greatest reach of a legacy supervisory control and data acquisition (SCADA) systems environment. The IoT which will create dynamic networks of billions of wireless identifiable 'things', intelligently communicating with one another, bringing ubiquitous computing, and integrating the digital world and the physical world. More concretely, improved sensor device capabilities will facilitate business logic at the edges of networks, facilitating decision-making based on real-time readings from sensors that are used to monitor pretty much anything and everything that can, and ought, to be monitored in, for example, a drilling-rig or well-head, etc., environment. Globally, satellite M2M is growing fast, and the aggregated target markets make its potential for the satellite industry very important.

The Rio de Janeiro list of applications and connectivity imperatives to be discussed will include ICT aspects of: safety systems provision on oil & gas installations at sea; the enhanced application of satellite-based security provisions related to the use of "Cloud"-based data traffic networking; and, of great significance to the growth of "Big Oil" and "Big Data" in the region, the impact of the latest high-capacity, high-throughput, satellite technologies (HTS) on the communications solutions vital to hydrocarbons E&P, including, potentially, video streams from unmanned aerial vehicles (UAVs) on security patrol around isolated offshore installations.

Information updates for the Rio de Janeiro conference may be obtained from the conference webpages at www.uk-emp.co.uk/current-events/o-g-comms-brazil-2014/ or by contacting me at martin.jarrold@gvf.org.

Approximately one month after the Rio de Janeiro conference, attention will turn to **GVF Oil & Gas Comms Europe 2014: Big Oil, Big Data – North Sea, Atlantic Margin, Arctic Ocean,** which takes place 13th & 14th May in Aberdeen and the URL for which is www.uk-emp.co.uk/current-events/o-g-comms-europe-2014/.

The program for this latest event dedicated to the European "oil & gas patch" will include exploration of the communications imperatives and the delivery of networking solutions for the extreme northerly and westerly boundaries of Europe's new hydrocarbon E&P opportunity. Although in 2013 the search for Arctic reserves slowed, it is still fundamentally true that all the nations with territorial claims to the Arctic Ocean floor are gearing-up to exploit its hydrocarbons yielding potential. The three Arctic Nations of Europe – Denmark, Norway and Russia – continue to look to the ocean floor hydrocarbon resource potential of the Arctic Basin rock strata, and with global climate change warming the Arctic latitudes, opening-up the North-Western and North-Eastern Passages to year-round maritime navigation, the positioning of semi-submersible and floating drilling platforms becomes more viable. It is in this context that the satellite and wireless communications industry must increasingly prepare for, and to respond to, these new business opportunities.

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


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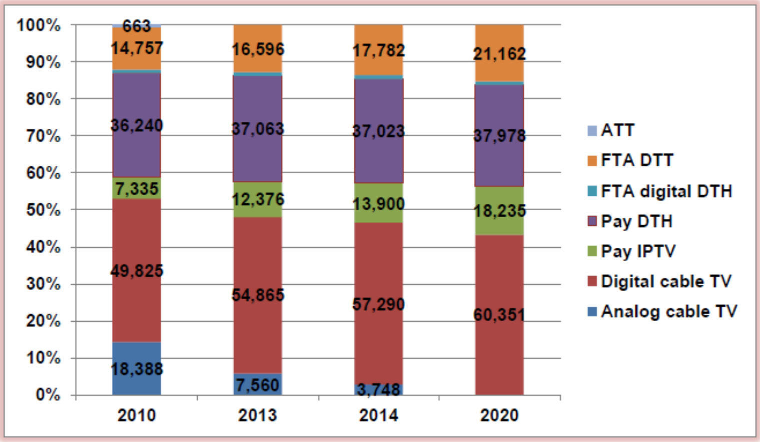
Vital Statistics

North America TV Households

North America: Share of TV households by platform (000)



Source: Digital TV Research

Despite all of the talk about cord-cutting, a new report from Digital TV Research forecasts that the number of pay TV subscribers in North America will continue to increase – despite a small decline in 2013. The Digital TV North America report estimates that nearly 5 million more subscribers will be added between 2013 and 2020.

Advertisers' Index

The Satellite Markets 25 Index™

Company Name	Symbol	Price (Mar. 31)	% Change from Last Month	52-wk Range			% change from 52-wk High
Satellite Operators							
Asia Satellite Telecommunications	1135.HK	32.00	-5.33%	26.85	35.00	↓	8.57%
Eutelsat Communications S.A.	ETL.PA	24.50	3.64%	20.41	28.00	↓	12.48%
APT Satellite Holdings Ltd.	1045.HK	9.16	-9.13%	4.78	12.00	↓	23.67%
Inmarsat Plc	ISAT.L	727.50	4.75%	80.01	784.00	↓	7.21%
SES GLOBAL FDR	SES.F	27.32	8.63%	20.81	27.50	↓	0.65%
Satellite and Component Manufacturers							
The Boeing Company	BA	125.65	-2.54%	83.80	144.57	↓	12.95%
COM DEV International Ltd.	CDV.TO	3.73	-5.81%	3.32	4.40	↓	15.23%
Lockheed Martin Corporation	LMT	162.76	0.28%	94.00	168.41	↓	3.56%
Loral Space & Communications, Inc.	LORL	70.91	-10.26%	59.10	82.13	↓	13.92%
Orbital Sciences Corp.	ORB	27.61	-2.85%	15.71	29.41	↓	6.29%
Ground Equipment Manufacturers							
C-Com Satellite Systems Inc.	CMI.V	1.61	-12.97%	0.83	2.37	↓	32.07%
Comtech Telecommunications Corp.	CMTL	31.73	-0.87%	22.65	33.80	↓	5.99%
Harris Corporation	HRS	73.63	-0.26%	41.08	75.33	↓	2.47%
Honeywell International Inc.	HON	91.96	-2.63%	70.92	95.91	↓	4.16%
ViaSat Inc.	VSAT	68.82	3.16%	45.18	74.78	↓	8.50%
Satellite Service Providers							
Gilat Satellite Networks Ltd.	GILT	4.99	-5.13%	4.09	6.11	↓	18.33%
Globecomm Systems Inc.	GCOM	14.10	0.00%	10.49	14.91	↓	5.43%
International Datacasting Corporation	IDC.TO	0.10	5.26%	0.07	0.23	↓	56.52%
ORBCOMM, Inc.	ORBC	6.45	-17.41%	3.40	8.21	↓	21.92%
RRSat Global Communications Network Ltd	RRST	8.71	-3.44%	6.97	9.39	↓	7.24%
Consumer Satellite Services							
British Sky Broadcasting Group plc	BSYBY	61.27	-3.34%	46.45	63.79	↓	4.19%
DIRECTV	DTV	76.69	-1.17%	53.50	80.77	↓	5.30%
Dish Network Corp.	DISH	62.06	5.47%	34.77	63.98	↓	2.97%
Globalstar Inc.	GSAT	2.62	15.42%	0.26	2.73	↓	4.03%
Sirius XM Holdings Inc.	SIRI	3.16	-12.47%	2.95	4.18	↓	23.93%

INDEX	Index Value (Mar. 31)	% Change from Last Month	% Change Jan. 03, 2014
Satellite Markets 25 Index™	1,719.04	1.08%	0.48%
S & P 500	1,872.78	0.72%	2.27%

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

13m Ku-Band Antenna in Rio de Janeiro, Brazil.
Picture - V. Ruta

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