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The Satellite Broadcast Market in Transition

The satellite broadcast market is evolving amid transition and growth

by Dan Freyer

Heading into the NAB 2011 trade show in Las Vegas, the satellite video marketplace reflects an evolving scene of growth and transition around the world, with compression, IP and fiber IP technologies continuing to drive change and opportunity from within and competition from without.

Global Drivers

This year, video customers are showing enthusiasm, particularly for growth of HD in markets outside the U.S. "We've seen continued year on year growth of HD channels but also a continuing trend of regionalizing content and channels for world markets, in the style of Al Jazeera, Russia Today, and France 24 to name a few," says GlobeCast Director of Communications Matthew Rosenstein. GlobeCast, a subsidiary of France Telecom, is one of the leading global providers of content management and worldwide transmission services via satellite.

"We are seeing a stable to consolidating market place for TV in the North American market. There is an abundance of capacity and media companies are looking at how to more efficiently use it with higher order modulation and MPEG4," says Tim Jackson, VP Media Product Management, responsible for the global media business at the world's largest satellite operator, Intelsat. "On the other hand, we are seeing a lot more growth for HD particularly in Latin America, significant growth in DTH for emerging markets, parts of Latin America, parts of Asia, Central and Eastern Europe."

This year's NAB will highlight global video neighborhoods and services with particular emphasis on HD. (photo courtesy of the NAB)

At NAB 2011, Jackson's group from Intelsat will be promoting its global video neighborhoods and services, but from a product development standpoint also looking at the latest in video encoding systems and platforms, particularly the software that manages those platforms and media distribution. "We are always looking for efficiencies in automation and the occasional use service sectors. So we will be looking at platforms that help us do that," he explains.

Globalization of markets remains a relentless force driving the satellite business today, and at the same time satellites facilitate today's global business and culture. The combination of Ascent Network Ser-

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What's Inside

From the Editor

A More Proactive Approach to Emergencies and Natural Disasters

The satellite industry once again rallied to the aid of Japan in the wake of the trifecta of an earthquake, tsunami and nuclear crisis that befell it last month. As it always is the case, natural and man-made disasters accentuate the pivotal role that satellite technology can play in recovery operations and crisis management. However, this time, rather than just a reactive approach, the industry has taken steps to be more proactive and anticipate what resources can be mobilized for the event of such emergencies.

Just days before the earthquake hit Japan, The UN Office for Coordination of Humanitarian Affairs (OCHA) signed a MoU with the GVF to expand coordination between the UN and GVF and to improve disaster preparedness and relief efforts, including the establishment of the GVF Disaster Preparedness Registry which will catalog all resources that can be made available in the event of a disaster. Shortly thereafter, the GVF was heavily involved in coordinating relief efforts in Japan.

The GVF initiative is most commendable. It will also ensure that in the future, there will be more coordinated response to disasters from the industry.

The Japanese people continue to suffer in the aftermath of this tragic disaster. Please help in any way you can. The Cable and Satellite Broadcasting Association of Asia (CASBAA) has compiled a list of worthwhile charitable organizations which are in need of donations. Check out the list here: www.casbaa.com/casbaa-cares/japan-relief-donation

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The Satellite Broadcast Market... from page 1

vices with Encompass Digital Media, Inc. earlier this year is a recent example. Encompass Digital Media, Inc. recently acquired Ascent Media's Content Distribution business, including broadcast facilities in the U.S., London, and Singapore, and teleport facilities.

"As content acquisition and distribution requirements become more global, we require more locations to provide turnkey services. The acquisition was a necessity for us to deliver our clients' content seamlessly," explains Vince Matherne, VP Strategic Development for Encompass Digital Media. "We work with the largest media companies in the world. They may have requirements to take content developed in New York, London or Singapore, for example, and deliver it across multiple platforms globally - as linear or non-linear; HD, SD or mobile; and possibly with multiple audio tracks, etc." Matherne added.

"...We are seeing a stable to consolidating market place for TV in the North American market. There is an abundance of capacity and media companies are looking at how to more efficiently use it with higher order modulation and MPEG4..."

-Tim Jackson, VP, Media Product Dev't. INTELSAT

Media Asset Management

New media asset management tools play a part in new channel expansions, and players such as GlobeCast, Encompass Digital Media, Inc., and Arqiva are using their distribution networks (fiber and satellite) to make the internationalization and globalization of content and the versioning of content an easier and more seamless process.

"We have invested in archives in our five key global locations to intelligently capture, store, manipulate and share content as needed for distribution to linear or non-linear platforms, whether HD, SD, mobile or IP," said Matherne.

Equipment and system sales are benefiting. According to Sean Busby, Executive Vice President of TBC Integration, an integrator and distributor of name brand satellite video equipment in the U.S., "We see transcoding - anything in to anything out - as the big market sellers for 2011 through 2013. Content broadcasters will be able to convert their systems to MPEG-4 AVC High Definition to increase picture quality but keep the same amount of bandwidth cost. They will use Transcoders at the remote ends that need MPEG-2 transport stream outputs like cable companies and terrestrial broadcasters."

Surprisingly perhaps to some observers, new cable and DTH channels are still launching in North America. "It is kind of amazing that there are still more channels that need to come on air; a lot of these are regional networks, HD versions of existing SDs, new niche channels for sports fans or special interest groups," says Encompass Digital Media's Matherne, whose company is one of the largest global service providers of outsourced media services including the origination and distribution of major broadcast and cable networks, joined by the likes of Comcast Media Center and GlobeComm Systems.

The transponder capacity situation has also favored C-band buyers in North America of late. The SPACECONNECTION, Inc. is a provider of C-Band and Ku-Band satellite space segment with transponder inventory assembled from capacity from all the major satellite operators in North America. "Overall for SpaceConnection, the North American marketplace for C-band has been soft over this past year," says Jonathan Crawford, President & CEO. "We have also been seeing a decline in prices for C-band with rates now maybe 25% lower than it was a year or so ago. There is plenty of 'tier one' and 'tier two' Cable distribution satellite capacity in the market." Another factor softening C-band demand is more use of video compression. "A year ago we saw more 36 MHz HD services, while today we see more HD in 18 MHz capacity, for example NBA services are now on 18 MHz slots," he adds.

Fiber looms as a challenge to satellite-dominated broadcast and cable distribution media. As the number of national receive sites goes down satellite economics yield to terrestrial fiber at some point. In the US, the number of cable head ends in fact has been dropping in a dramatic fashion with consolidation in the industry, reducing the number of downlink sites required to distribute cable networks, say service providers.

The advantage with MPEG4 is more information in less bandwidth. MPEG-4 HD encoders that listed in the US $ 25,000 range several years ago now sell for up to 50% less, with accompany reductions in receiver costs. Nevertheless, "The legacy IRDs (Integrated Receiver Decoders) in the transmission chain are the challenge, especially in large networks and DTH systems. New channels are easy to activate as MPEG-4. For channels with large amounts of IRDs, it sometimes makes sense to stay MPEG-2," according to Matherne for Encompass Digital Media, "but with the number of headends reducing, the math to switch to MPEG-4 becomes easier - even for an SD channel," he adds.

Contribution Services: The IP Challenge

Satellite continues to be the mainstay for remote newsgathering and high quality contribution services. Neverthe-

less fiber and terrestrial solutions are becoming a bigger challenge, especially for broadcast networks, as local affiliate and local television marketplaces evolve their business models.

"For contribution, the use of IP to drive efficient delivery of video voice and data applications is of keen interest to media clients like ABC" says Richard Wolf, Vice President, Telecommunications & Affiliate Services, ABC Television Network in New York. "ABC News is beginning its shift to the use of IP for more and more of its newsgathering operations. More important than the protocol itself, IP at the application layer enables the integration of video, voice and data services to integrate into an efficient content workflow process, driving value for the dynamic needs of news and content companies."

From a satellite SNG service perspective, says Encompass Digital Media, Inc. VP, Transportables and Production Service, Greg Jennings, "Our biggest competitor is fiber."

"We are seeing a tremendous amount of sharing and pooling of resources for backhauls and news, combined with technologies like Skype putting pressure on the occasional use business particularly news. So we are looking at how to make it more efficient, given the challenges the industry is facing with consolidation and alternative technologies," says Intelsat's Jackson.

Another application of interest to broadcast technology managers heading to NAB is remote control services that tie field operations and the broadcast center together in an efficient way.

Product improvements with MPEG-4 products have boosted compression deployment as well. "We do a handful of MPEG-4 events on the sporting side, mostly for golf (MPEG-4 4:2:0), and we are getting more requests for 4:2:2," explains Greg Jennings, VP, Transportables and Production Services for Encompass Digital Media. "One of our encoder providers has been able to decrease latency, which has been an issue with MPEG-4," he added.

The trend in the past 12 months has been a greater reliance on MPEG-4 in contribution services. This does not mean that MPEG-2 will stop dominating the landscape in the near term, but going forward, a natural migration for more MPEG-4 compression is inevitable in our evolution to drive more efficient bits to the satellites, broadcasters say.

Companies showcasing end-to-end content gathering solutions that can be remoted from a central location should enjoy interest from North American broadcasters at NAB 2011. New technologies, solutions and products to watch include transcoding systems, remote control and IP DSGN solutions, 3G/4G hybrid systems, new FEC and adaptive coding, bonded routers and more, say end users and technology players.

The new generation of 'easy button' deployable SNG units that take the complexity out of pointing, peaking, and coordinating satellite feeds for local HD news and centralized management efficiencies are also on the list. Companies such as ND Satcom, and OnCall Communications with its QuickSpot service, are some of the players offering service and gear for these applications.

On a global scale, a 24% CAGR in terminal deployment over the last 5 years reported recently by Euroconsult (see Satellite Executive Briefing March 2011 issue, Page 13) includes new small, light weight and IP terminals, and is playing out in demand for equipment vendors and integrators.

"The trend in last 12 months has been a greater reliance on MPEG-4...going forward, a natural migration for more MPEG-4 compression is inevitable in our evolution to drive more efficient bits to the satellites…"

Service providers with larger SNG remote production fleets include Encompass Digital Media, Inc., PSSI Global Services, PACSAT, in the U.S., and companies like SISLink, Arqiva, and GlobeCast in Europe. According to Rob Lamb, President of PSSI Global Services in Van Nuys, Calif., it is becoming an expectation that trucks come equipped with MPEG2, MPEG4, HD and SD, DVB-S2 and higher order modulation, so ensuring that their fleet of vehicles and flyaways are equipped as such is a given.

"We rarely do SD any more. It is almost all HD," says Lamb, whose engineering team "will be looking, at SSPAs, multiplexers, encoders, decoders, higher order modulators, transportable HD switchers, and smaller flyaway packages, as always, at NAB this year."

Lynn Rowe, Consulting CTO, New Vision Television, a 15-station broadcast group headquartered in Atlanta and Los Angeles, is one of the broadcasters who will be looking for "Easier, faster, cheaper, end-to-end" newsgathering solutions. He believes the technologies and products have finally "hit the local TV sweet spot" in terms of price-to-performance. "In this environment field reporting can be a 'one-man-band.' We can no longer have teams of skilled technical and operational staff and stay competitive," explains Rowe, who also runs his own TV technical consulting firm in Atlanta (One World Technologies, Inc.). "Moreover, an intelligent IP fabric enables many more efficiencies, such as newsroom system access, collaborative unified communications, virtualized workflows."

More Content, More Signals

Against today's backdrop of evolving business models in content distribution and broadcasting, market research firm Euroconsult still projects solid long-term growth in satellite video services worldwide. That is welcome news for suppliers, from ground gear to satellite builders. "The demand for HDTV is growing around the world and some people believe that 'Ultra HD' is coming, which will require even more bandwidth," says Wendy Lewis, spokesperson for Space Systems/ Loral, a satellite manufacturer which builds some of the highest power satellites at 20-kW to meet DTH payload requirements.

In the long term, it does seem clear that there will be an inevitable explosion in the amount of content available, so all forms of delivery, including satellite and terrestrial infrastructure, must continue to grow at a fast pace in order to keep up. And the NAB 2011 is *the* marketplace for video delivery infrastructure.

Dan Freyer is the principal of **AdWavez Marketing,** an integrated marketing agency serving the satellite industry. Since 1990, he has worked with leading spacecraft and ground equipment manufacturers, satellite operators, and video and IP users to grow their brands and businesses. He can be reached at dan@AdWavez.com

The New ‘Normal’:Video Goes Mobile

Does satellite technology have a place in this new ‘normal’?

by Elisabeth Tweedie

The world has gone mobile. There were 5.3 Billion mobile phones in use at the end of 2010. Mobile phones if we can really still call them “phones” have a myriad of uses beyond making a mere phone call. They’re used for email, web browsing, gaming, reading books, listening to and downloading music and watching and downloading video. Total global mobile data traffic is growing rapidly; in 2010 it was 2.6 times greater than in 2009. Video is becoming the major component of that data. At the end of 2010 mobile video traffic made up 50% of total mobile data traffic and Cisco are forecasting that this will increase to 66% by 2015. With the increase in Smartphone’s and tablets this growth will increase. Smartphones represent 13% of total global handsets and 78% of handset traffic. In 2010 the average tablet generated 5 times the traffic of the average Smartphone and the average laptop 22 times the traffic of the average Smartphone.

A changing world indeed; and one that places new demands on the companies that deliver these services. And begs the question – do satellites have a place in this “new normal”?

Overall Usage–Number of Users 13+ (in 000’s)
Monthly Reach–Q4 2010

Q4	Q4 10	Q3 10	Q4 09	% Diff Yr to Yr
Mobile Subscribers Watching Video on a Mobile Phone^	24,708	22,913	17,583	40.52%

Source: The Nielsen Company

According to a recent mobile video report from The Nielsen Company, the number of U.S. mobile subscribers watching video on their mobile devices rose more than 40% year-over-year in both the third and fourth quarters of 2010, ending the year at nearly 25 million people.

Video reaches the mobile user courtesy of either the wireless operator or the local broadcaster. By definition a cellular network is designed for point to point communication and therefore in principle if not in capacity is ideal for video on demand, two way video (Skype video calls for example) and uploading user created video as opposed to broadcast video. 4G in its various guises will do a lot to increase network speeds meaning that web pages will load faster, video can be downloaded faster and true multi-tasking on mobile devices will become a reality. However as bandwidth increases so does consumption as users expect to duplicate the home experience everywhere. Consequently mobile data traffic is growing at a rate 4.2 times faster than fixed.

No wonder the wireless operators in the US are clamoring for more spectrum! Indeed that was one of the key drivers behind AT&T’s recent proposal to acquire T-Mobile. In contrast the broadcasters are desperately trying to hold onto the spectrum they have. Having already given up spectrum in 2008 as part of the transition to digital TV, they are expressing reluctance to part with any more.

The National Broadband Plan released over a year ago is asking broadcasters to voluntarily part with another 120MHz. The NAB has not opposed the voluntary auction but has pointed out that they are using the spectrum to deliver free niche programming and will use it to deliver mobile digital TV – of which more later. They have also questioned whether some spectrum holders including Verizon, Time Warner and AT&T are actually using the spectrum they have. Not named but presumably included would be Dish who were one of the buyers in the 700MHz auction, but to date have announced no plans to use the spectrum. Dish has also recently acquired DBSD and the associated spectrum assets. FCC Chairman Julius Genachowski responded to the NAB claims at the Mobile Future Forum in March, stating that “Multiple expert sources expect that by 2014 demand for Mobile Broadband and the spectrum to fuel it will be 35 times the levels it was in 2009. This compares to the spectrum coming on line for mobile broadband that represents less than a three times increase in capacity. The looming spectrum shortage is real – and it is the alleged hoarding that is illusory.”

One way to ease the congestion is to continue to do what the cellular operators have been doing for a while now – pass some of the traffic off onto someone else's network. While some of the mobile usage is truly mobile and occurs while the user is moving, a great deal of so called mobile usage takes place in coffee shops, airports, hotels and the home. By incorporating WiFi into Smartphones the operator is allowing its customers' to get the same service at someone else's expense and at the same time easing the congestion on its network.

"…as bandwidth increases so does consumption as users expect to duplicate the home experience everywhere. Consequently mobile data traffic is growing at a rate 4.2 times faster than fixed…"

No discussion of spectrum in the US would be complete without a mention of LightSquared, the company that has almost made a business out of rebranding, having changed its name 3 times in as many years. In its latest incarnation it is positioned as a wholesale LTE company not a satellite operator. It has access to 59MHz of spectrum and has said that its network will have around 40,000 base stations covering 92% of the US population by 2015. After previously swapping spectrum with Inmarsat to gain larger contiguous blocks; in March the company announced an agreement in principle with Open Range in which Open Range will lease the L-Band spectrum. The agreement also lets Open Range's sell LightSquared's satellite capacity. The partnership will also include a 4G nationwide reciprocal roaming arrangement. The companies will collaborate on the design, build-out and operation of Open Range's network as well as on product and service evolution.

March was a busy month for LightSquared, as well as the Open Range deal, a roaming agreement was signed with Leap Wireless and an agreement for Best Buy - the Electronics Retailer turned MVNO - to use LightSquared's network. The company is also reportedly in discussions with Time Warner Cable, Cablevision and also with Sprint. With the satellite successfully launched LightSquared is planning on starting service in the Mid West in Q3 this year.

LightSquared is demonstrating one way in which satellite is relevant in the new reality, the other very important role for satellite in the mobile video world is as the backhaul provider in areas where there is insufficient fiber or microwave as was discussed in Satellite Executive Briefing last month.

Back to the Broadcasters and Mobile Digital TV. Last November Mobile Content Ventures (MCV) – a JV comprising 12 major broadcast groups including Fox, NBC, Ion and Pearl a consortium of 9 companies including Cox Media Group, E.W.Scripps Co, Hearst Television and Raycom Media, announced a commitment to roll out mobile TV service in 20 markets covering 40% of the US population by the end of 2011. Initially the service will have "at least" 2 ad-supported channels. In order to receive the service users will need a device capable of receiving ATSC-M/H and in January MCV announced that it had received commitments from Dell and Samsung to deploy MCV compatible devices with a mobile DTV tuner. Technology agreements were also announced with Nagra-Kudelski for conditional access and with MobiTV to develop additional premium consumer applications. MobiTV currently delivers paid content through cellular networks to around 14M subscribers in the US and Canada.

MCV and Pearl are both part of the Open Mobile Video Coalition (OMVC) which has 875 member stations and includes 6 networks, covering over 100M households. Last May the OMVC conducted a free trial of mobile TV with 345 participants in the Washington DC area. Results showed that daytime was the peak viewing time and 60% of participants in the trial said they would be "somewhat likely" to use the service if it was free. Unsurprisingly local news was the most popular program genre, what was surprising was that sports came very low down on the popularity list.

So will the 60% that said they would be somewhat likely to use the service translate into a viable business for MCV? Free may be the key, Qualcomm shut down Media-Flo in the US a subscription TV service to mobile devices due to lack of subscribers. But maybe the key question is do consumers want broadcast TV or Video on Demand? My bet for the US would be on the latter and the only way the broadcasters could get around that is to utilize devices with sufficient storage capacity that a pseudo VoD service could be offered, but in the age of instant gratification is pseudo VoD good enough?

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

Update on the US Digital TV Market

Although the Free-to-Air (FTA) networks, such as ABC, CBS, and NBC all offer digital and increasingly High Definition TV programming, for many years they have been losing audience share to the cable and satellite TV networks. The Big Three are expected to continue to lose market share to the DBS and cable providers as well as, incrementally, to the telcos' IPTV networks., according to a new research report by Research and Markets entitled "USA- Digital TV Market-Broadcasting and IPTV."

"...since 2000 digital technology has gradually brought about the convergence of telecommunications, broadcasting and content services, causing the market to substantially transform…"

The US now has one of the highest rates of pay TV penetration in the world. By 2010 there were over 100 million pay TV (or Multichannel Video Programming Distributors) subscribers in the US, amounting to over 85% of households. A significant trend in the digital TV market is the shift towards video-on-demand and other forms of online video viewing, a trend which will continue to strengthen along with the growth of broadband networks.

In the 1950s to 1970s three large privately-owned networks, ABC, CBS and NBC, claimed 90% of the US TV market with free broadcasts. The rapid spread of pay TV over cable in the 1980s broke the hegemony of the big three and by 2001 around 70% of US TV households subscribed to cable TV (CATV).

During the early 1990s Digital TV (DTV) was available via Digital Terrestrial Television (DTTV) through antenna, via digital cable and via digital satellite. In the late 1990s other delivery technologies became available, such as Digital Multimedia Broadcasting (DMB) using digital radio transmission to allow handheld devices such as mobile phones to receive TV signals, as well as network infrastructures that deliver TV over Internet Protocol (IPTV).

In particular, while the telecom sector fought the unbundling provisions of the 1996 Telecommunications Act, the CATV companies capitalised on this opportunity by digitalising their cable infrastructure, with the result that by 2006 approximately 99% of US households were passed by digital cable. By end-2009 around 87% (or just over 99 million) of US households subscribed to some form of Multichannel Video Programming Distributors (MVPD) service, predominantly cable (62% of households) and satellite TV (33% of households).

Initially, the introduction of DTV did not affect the competitive landscape in the USA with the national Free-to-Air (FTA) networks and content providers remaining as the dominant players. Acquisitions and mergers affected consumer choice more than new technologies. However, since 2000 digital technology has gradually brought about the convergence of telecommunications, broadcasting and content services, causing the market to substantially transform.

For instance, in 2000 the CATV companies launched broadband access services over their digital cable infrastructure and by end-2004 had captured around 60% of broadband subscribers. Another significant change took place in 2004/05, when the dominant cable companies began to build out digital voice telephony or Voice over Internet Protocol (VoIP) infrastructure across their footprints, enabling them to offer triple play communication services - voice, broadband Internet and DTV content - over the same cable pipeline into the home. This placed them as direct competitors to the telcos.

The powerful telcos, Verizon, SBC, BellSouth and Qwest, responded by entering the broadcasting market initially through partnerships with satellite Direct Broadcasting Service (DBS) broadcasters, bundling satellite TV with the telcos' voice and Digital Subscriber Line (DSL) broadband. The long-term telco strategy is to build fibre deep into their networks, enabling them to deliver DTV over their own broadband networks.

The telcos' IPTV strategy is one of two broad models involving the use of IP to deliver TV or video services. The other model is one involving video services offering content for download or streaming over PCs and other connected devices. Although by early 2010 subscriber numbers to these two emerging IPTV models were still modest, IPTV is expected to have a profound change on the face of TV delivery over the years to 2015.

The Future of Connected TV

Global Connected TV shipments are projected to grow at a CAGR of 58.3%

Over the next few years, Connected TV will become a mainstream consumer technology. Its widespread adoption will not only be disruptive to the entertainment industry; it will also heavily impact the global advertising and marketing industries, according to a new report entitled "The Future of Connected TV" by Research and Markets.

Global Connected TV shipments are set to see huge growth over the coming years, at a CAGR (Compounde Annual Growth Rate) of 58.3% between 2009-14. The Asia-Pacific region is the driving force, with CAGR of over 60% and representing almost half of global shipments by 2014. Although still a small market, the Middle East and Africa will see the fastest growth over the period.

Global total set top box shipments (including DTT, IPTV, Cable, and Satellite connections) are set to grow from around 177m in 2009 to over 207m in 2014. Global IPTV set top box shipments are expected to grow from 19.4m to 57.5m between 2009-14.

The battle to win a big slice of the global connected TV pie has already attracted companies which are not traditionally associated with living room TV. Google TV, Yahoo Connected TV, Apple TV and even Microsoft are now all hotly competing for TV viewers in the era of Connected TV.

The report examines the market around the new medium of Connected TV. It looks at the role of established TV broadcasters, Internet companies, TV and set top box makers, and niche players in the new industry aiming to take market share from the incumbents. It examines the birth pangs of Connected TV and includes detailed analyses of each of the main players' strategies for gaining market share.

Scope of this research include:

- Understand why the Internet TV market is about to become the biggest new entertainment medium since the advent of broadcast TV;
- Identify the key players in the market and how they are positioned to take full commercial advantage of Connected TV;
- Establish successful monetization strategies to take advantage of the new medium
- Analyze the current and future state of the Internet TV market, focusing on Connected TV;
- Examine the way in which social networking, 3DTV and other innovations are set to accelerate the adoption of Internet TV.

For more information visit www.researchandmarkets.com/research/b6230a/the_future_of_conn

US Mobile Viewers Rise 40%

According to a new mobile video report from The Nielsen Company, the number of U.S. mobile subscribers watching video on their mobile devices rose more than 40 percent year-over-year in both the third and fourth quarters of 2010, ending the year at nearly 25 million people.

These mobile video users watched an average of four hours and 20 minutes of mobile video per month in both the third and fourth quarter of 2010–a 33 percent and 20 percent year-over-year increase in each quarter respectively.

The growing popularity of mobile video is due, in part, to the rapid adoption of media-friendly mobile devices, including smartphones.

Whereas in Q4 2009 only 23 percent of US mobile subscribers had smartphones, by the end of 2010 smartphone penetration had reached 31 percent.

Over time, it also has become easier to find, view and share mobile video, either via mobile apps or the mobile web.


FAILURE
IS NOT
AN OPTION

Products and Services MarketPlace

A guide to key products and services showcased at the NAB 2011 exhibition in Las Vegas, Nevada, USA from April 9-14, 2011.

ATCi, founded in 1979, offers end-to-end systems integration and technical services. From front-end consulting and planning, to integrating, installing, coordinating and managing technology solutions, ATCi has the depth and experience to respond to unique challenges and opportunities. Based upon the experience and expertise ATCi has gained through hundreds of successful installations, the communications challenge is turned into a success for its customer. Regardless of the system requirements, we create complete end-to-end solutions.

ATCi introduces **Simulsat5b** - the newest multibeam system capable of receiving transmissions from 35+ satellites simultaneously. Simulsat has been providing programming to over 30 million cable subscribers in the U.S. market making ATCi the world leader in multibeam technology.

www.atci.com

at the NAB 2011
Visit ATCi at booth # SU 6417

AvL Technologies delivers superior mobile satellite communication antenna systems and positioners. AvL's visionary approach to mobile satellite antennas and positioners has established the company as a global leader in innovation and reliability. The product line features a full range of lightweight, rapidly deployable, self-contained antenna and positioner systems. AvL antenna systems enable efficient and cost-effective voice, video, and data connectivity to be established quickly without the need for specialized training.

AvL is also one of the largest producers of high-performance, Ka-band ready, solid carbon-fiber CF antennas. AvL's growing CF product line includes 1m, 1.2m, 1.6m, 2.0m and 2.4m apertures.and a diverse product line of rugged motorized FlyAway packages, many available in back-pack configurations, some as small as to meet airline requirements for cabin baggage.

www.avltech.com

at the NAB 2011
Visit AvL Technologies at booth # SU 1120 and at the outdoor exhibits area # OE 1706

Cobham is an international company engaged in the development, delivery and support of leading edge aerospace and defense technology and systems.

Cobham's products and services have been at the heart of sophisticated military and civil systems for more than 75 years, keeping people safe, improving communications, and enhancing the capability of land, sea, air and space platforms.

At the NAB 2011, Cobham's **Satcom Land** division will be exhibiting their products. Cobham's **Satcom Land** business unit provides a wide array of Fly-Away antennas and a broad selection of Vehicle Mount antennas including Comms On The Move, and solutions for all technical needs.

www.cobham.com/tracstar

at the NAB 2011
Visit Cobham at booth # OE 1325

Globecomm Systems Inc. provides end-to-end value-added satellite-based communication products, services and solutions by leveraging its core satellite ground segment systems and network capabilities, with its satellite communication services capabilities. The products and services Globecomm offers include pre-engineered systems, systems design and integration services, managed network services and life cycle support services. Globecomm's customers include communications service providers, commercial enterprises, broadcast and other media and content providers and government and government-related entities.

www.globecommsystems.com

at the NAB 2011
Visit Globecomm at booth # SU 2217

Comtech Xicom Technology, Inc., is introducing a new LCD (liquid crystal display) touch screen control interface for high-power traveling wave tube amplifiers (TWTAs) for satellite communications. The new LCD touch screen provides an easy-to-use interface for monitoring and controlling SATCOM power amplifiers in an industry-standard 19-inch wide rack-mount configuration.

Comtech Xicom's new touch screen front panel displays the HPA's operational status including power output and temperature, graphical displays of parameter trend analysis, and event logs. The system offers the ability to 'zoom-in' on fault conditions. Local and remote diagnostics can also be easily performed via an Ethernet interface.

This new display eliminates the need for separate external controllers for common architectures because it can show and control waveguide switches and a combiner, providing both cost and space savings. Another valuable feature is that all operational data is saved within the amplifier's non-volatile memory, providing more than 10 years of history for the HPA in the event that the unit needs service or repair. Uplink power control will also be an option for these systems. The new touch screen front panel controller is available as an option on all Comtech Xicom Technology rack-mount TWTAs.

www.xicomtech.com

at the NAB 2011
Visit Comtech Xicom Technology at booth # SU 5510

GlobeCast and NETIA will be co-exhibiting once more at NAB 2011. The themes of the booth will be global distribution, media asset management, and playout of international content. The booth will feature live demos and animations that speak to the needs of international broadcasters today.

Broadcasters will learn not only about satellite and fiber delivery of their channels around the world, but about how GlobeCast and NETIA can help them:

- manage file-based assets for multiple platforms;
- create regionalized versions of content for different television markets;
- ingest content locally, and play out content globally; and
- ensure distribution with television platforms around the world.

To respond to these needs, GlobeCast provides media asset management solutions powered by the NETIA Content Management System, and distribution services through its worldwide satellite and fiber network as well as its playout suites in Miami, London, and Singapore.

www.globecast.com

at the NAB 2011
Visit GlobeCast at booth # SU 911

In line with the **Hispasat** group's international expansion strategy into new markets such as the Americas and particularly the United States, Hispasat launched in 2004 the Amazonas 1 satellite. The group's presence in the American market is anchored in the development of its 61º West orbital position, complemented by the 30º West position.

Hispasat's expansion in the Americas has been facilitated through its subsidiary, **Hispamar Satélites**, headquartered in Brazil. The Amazonas 1 satellite, specifically designed to provide broadcast and multimedia services, provides services throughout the American continent including the entire US mainland, with connectivity to Europe and North Africa. The Amazonas 2 satellite was launched in 2009 in the 61º West orbital position and serves the entire American continent from Alaska in North America to Tierra del Fuego in South America.

Hispasat has developed into one of the leading satellite operators in the world today and one of the leaders in terms of licenses on the American continent. Landing rights have been obtained through after extensive effort during the past few years in almost all of the countries in the Americas and North Africa.

www.hispasat.com

www.hispamar.com.br

at the NAB 2011
Visit Hispasat/Hispamar at booth # SU 2602

Products and Services Market*Place*

TeamCast founded in 2003, is the renowned leader in digital modulation technologies used for Digital Terrestrial and Mobile Television, Wireless Video Links and Satellite Transmissions, all around the world. At the NAB 2011 TeamCast will be showcasing the following products:

Vyper, DVB-S/S2 Modulator. Vyper is a state of the art DVB-S/S2 modulator for satellite contribution, satellite distribution and DTH networks. Compact and powerful, Vyper integrates CCM, VCM and ACM modes as well as QPSK, 8PSK, 16 & 32 APSK ensuring a useful bit rate up to 45 Mbauds. The high quality RF output, agile (950 MHz to 2150 MHz) and adjustable, provides flexibility for any system integration.

Syper, DVB-S/S2 Demodulator. Syper is the latest generation of satellite demodulator, fully compliant to both DVB-S and DVB-S2 standards. Compliant with CCM, VCM and ACM modes, Syper can demodulate up to 32 APSK constellations with bitrates up to 170 Mbits/s. Syper is multi-stream compliant DVB-S2 and can offer up to 5 ASI outputs in parallel. Thanks to its multiple outputs, Syper is the ideal solution for building any distribution network via satellite.

www.teamcast.com

at the NAB 2011
Visit TeamCast at booth # SU 5523

W.B. Walton Enterprises (Also known as Walton De-ice) designs and manufactures the broadest line of equipment available for preventing the accumulation of snow and/or ice on earth station antennas. The original Walton De-ice product includes a behind the antenna main reflector plenum (enclosure) which is heated with hot air. These systems are for antennas ranging in size from 5-meters to 32-meters in diameter. 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 2011, Walton De-Ice will be demonstrating its newest product, the Ice Quake system which enhances the reliability of its De-icing and Snowshield systems by a factor of 100 percent.

With its vast experience and customer-service orientation, W.B. Walton Enterprises is committed to providing products of the best quality backed by superior customer service and support.

www.de-ice.com

at the NAB 2011
Visit Walton Enterprises at the outdoor exhibits area # OE 1610 and 1550

Wavestream designs and manufactures next generation solid-state power amplifiers for mission-critical defense and broadcast satellite communications systems. The company's innovative, patented Spatial Power Advantage technology provides higher output power, greater reliability and lower energy usage in more compact packages than traditional amplifier solutions. Wavestream's proven family of products meet the growing demand for greater efficiency and significant lifecycle cost reductions for satellite communications systems worldwide.

At the NAB 2011, Wavestream is introducing new indoor and outdoor PowerStream® 400W C-band solid state power amplifiers that are plug and play replacements for traditional unlinearized 750W Traveling Wave Tube Amplifier (TWTA) products used in satellite communications, teleport and satellite news gathering systems. The new PowerStream 454C-i and 454C-o products complement Wavestream's 600W C-band product family, and provide a lower power, cost effective solid state solution to support applications where larger antennas or more powerful satellites are used.

The PowerStream product family incorporates Wavestream's field-proven, next generation Spatial Power Advantage™ technology to provide high output power and greater efficiency.

www.wavestream.com

at the NAB 2011
Visit Wavestream at booth # SU 1926

The Satellite Industry is Well Positioned to Meet New Challenges

by Virgil Labrador
Editor-in-Chief

The 30th anniversary edition of the Satellite show held in Washington, D.C. from March 14-17 was like a big coming out party for the industry. Having just survived one of the worst global recessions relatively unscathed, the mood at the show was decidedly bullish. Senior industry executives speaking at the conference were almost unanimously positive on the industry's position yet they also recognize that there are still many challenges ahead.

"The satellite industry has proven its resilience during the global downturn and as a consequence is in a better financial situation in the market," said Astrium's CEO Eric Beranger during the CEO panel. The other CEOs in the panel agree that funding for growth is readily available in the public and private equity markets. The CEOs in the "Big Four" panel consisting of Intelsat, SES, Telesat and Eutelsat were also very positive and expect continued growth in the next few years.

As to where the growth will be coming from, SES CEO Romain Bausch was bullish about the emerging markets in Africa, the Middle East and Latin America. He said that in the next four-five years SES will be adding 20 percent to their overall capacity and 80-90 percent of that new capacity will be for emerging markets. SES World Skies' CEO Robert Bednarek added that in addition to the emerging markets, there is opportunity in the diversity of applications that satellite is now in demand such as the internet, military and vertical markets such as enterprise and oil and gas, among others.

A lot of the demand for bandwidth will be driven by the need for broadband access. Much attention was given the upcoming High Throughput Satellites (HTS) such as Viasat-1 and Hughes' Jupiter satellite which will be serving the consumer market in the U.S. Video driving demand for higher bandwidths for broadband to the home and the new HTS satellites will be able to meet some of this demand. HTS satellites have been launched recently in the Middle East using Ka-band and a being closely watched by operators in other regions such as Latin America and Asia.

In a panel called "Does New Media Need Satellites," speakers noted that the demand for broadband services is changing the business in significant ways. Scott Sprague, SVP of Global Sales of SES World Skies said that the "business model is changing but slowly."

SATELLITE 2011 Celebrating 30 Years

Gary Hatch, CEO of ATCi, said that the satellite industry has to "embrace change" to remain relevant. He said that the satellite industry is losing its drive which was very instrumental in its development. He said that the industry can benefit from an influx of young people with passion and drive for technology.

In a keynote luncheon address, Ed Horowitz, Director of US Space LLC discussed the changes of the last 10 years and his views on the prospects in the next 20 years for the industry . "There is an impending conflict between media distributors and media providers. New media is growing faster than traditional media. It is about carrying your content around with you. New media consumers want to do more than just consume available information. They want to create it, " he said.

"Five out of the ten fastest growing websites have user-generated content. Very soon, 50 percent of the workforce will be Generation X and Generation Y. 2011 marks a new rubicon for our business. Traditional media connections are changing. The new model is an open model with a direct connection between the consumer and media," added Horowitz.

MarketCast

View videos of interviews with key satellite executives at the Satellite 2011 at: www.satellitemarkets.com/current

BroadcastAsia2011
The 16th International Digital Multimedia & Entertainment Technology Exhibition & Conference
21-24 June 2011
Suntec Singapore
New Venue
Integrating Technologies, Experiencing Content
Broaden business views and channels with emerging technologies from leading exhibitors such as Bosch, Canon, DVB, Evertz, EVS, FujiFilm, Grass Valley, Harris, Harmonic, Hitachi, Kroma, Lawo, Miranda, RFS, Salzbrenner, Sennheiser, Snell, Thomson, Vizrt, WASP3D and Wohler.
2011 Highlights:
• Dedicated Cinematography / Film / Production Zone
• New technology display: HbbTV (Hybrid broadband broadcast Television) and Playout Services
• Experience technologies by more than 600 exhibitors: 3D, Broadcast Networking & Security, HD, Media Asset Management, Pro Audio, Production / Post Production, Software, and many more.
Gain market insights from industry experts on the latest trends and winning strategies at BroadcastAsia2011 International Conference and Creative Content Production Conference
www.Broadcast-Asia.com
Complimentary buses will ply between Suntec Singapore and Marina Bay Sands, bringing you to CommunicAsia / EnterpriseIT2011 where you can see more exhibits on IPTV, Mobile Broadcasting, Satellite and many others. Visit www.CommunicAsia.com for more information.
Register your visit today at www.Broadcast-Asia.com/visitor-pre-registration and enjoy special privileges!
Find us on:
Organised
Singapore Exhibition Services Pte Ltd
Worldwide Associate:
oes Overseas Exhibition Services Pte Ltd
Held Concurrently with:
CommunicAsia2011 EnterpriseIT2011
@ Marina Bay Sands, Singapore
A Part of:
Hosted by:
Endorsed by:
Held in:
ufi Approved Event

The Satellite show is also an opportunity to showcase new and upcoming product and services. Satellite manufacturer Boeing used the opportunity to put the spotlight on its recent launch of its Boeing Commercial Services unit that will focus on developing "hosted payloads" for government customers. Hosted payloads are an alternative to incurring the cost of building and launching a full satellite and providing the option to lease a fraction of a satellite. Companies such as Intelsat and Inmarsat, among others, have been marketing hosted payloads to government entities for some time now and the idea has gained new relevance amid the looming cuts in the military's budget and several high profile cancellation of military satellite programs such as the TSAT program.

A new satellite venture called Vivisat also took the opportunity to promote their Mission Extension Vehicle designed to prolong the life service life of in-orbit satellites. The venture plans to launch the first spacecraft in about three years. The spacecraft will provide propulsion to a satellite near the end of its service and can be used for other applications such as relocation to different orbits, de-orbiting and rescue and re-orbiting of satellites stranded in incorrect orbital slots.

While Vivisat is still shopping around for its first customer on its service, Intelsat announced at the satellite show that it has signed a satellite servicing agreement with McDonald Dettweiler (MDA) which will launch its Space Infrastructure Services (SIS) vehicle in three and a half years with Intelsat as its first customer. The SIS vehicle can refuel satellites and provide other services such as repairs through robotic mechanism in the spacecraft. Intelsat's CEO David McGlade called the new service a "game changer."

The 30th Satellite show was the largest ever attracting over 10,000 participants and over 300 exhibiting companies from all over the world. The lively discussions at the conference and the bustling activity on the exhibition floor was certainly reflective of the vibrancy and long-term viability of the industry as a whole.

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

Nice People Finish…First?

By Lou Zacharilla

Here's a panel session you will not see programmed at NAB, or anywhere else in the satellite business this year, I promise: "Why 21st Century Professionals Need to Be Nice." $100 bucks if you find anything close.

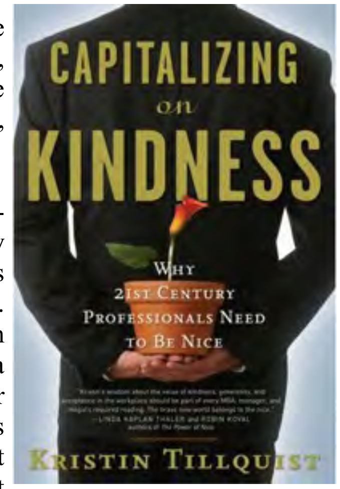
The reason you won't hear it discussed is because those of us in the business simply do not think that you can capitalize on kindness. In fact, we often see kindness as a weakness. I certainly am skeptical, or was, for many years about being, by nature, a nice guy. In fact, I go back and forth on it all the time in my business dealings and relationships. Is it better to be tough, hard-assed and driving toward a goal at the expense of everything else? Or is there a place for collaboration, openness and genuine, goal-less dialogue as a means to resolve an issue or unleash progress?

I was going back and forth on this issue, and wondering if others were wrestling with it, until I had dinner in Riverside, California last week with Kristin Tillquist. Tillquist is the author of a new book titled, "Capitalizing on Kindness." Now you can say to yourself, "OK, some suburban Californian ex-hippie author wrote a book about being nice. It has zip to do with me."

Wrong. Kristin, a lawyer, happens to be the Chief of Staff to the Mayor of Riverside, California, Ron Loveridge. Mayor Loveridge, as many know, was the president of the national League of Cities last year. After going through some pretty hairy years and a real estate crash of epic proportions, Riverside today finds itself in the middle of a renaissance. It has a polished downtown, a new technology park loaded with young CEOs from every corner of the earth starting business and revitalized parks and new public swimming complex. It has a robust fiber network, 78% WiFi coverage and, soon, will be home to the first new medical school in California in the last 30 years. It is also a green machine with a homegrown utility which produces 70% of its energy from alternative sources, including solar power. It is home to an Intelsat teleport. It reaches way across the digital divide, and has pulled in gang members to run an e-waste computer recycling operation that refurbishes and funds the distribution of PCs to 4500 families, many of whom did not even own a computer before.

You don't manage that type of revival by being a sweetheart or collaborating. Or do you? Well, in fact, the philosophy of Kristin's book revolves around the power of dialogue and the suggestion that "ultimate power is the ability to produce the results you desire most and create value for the other person in the process."

Yes, I go back and forth on this, but I have begun to realize that some of the most successful people in the satellite industry happen to be, well, nice people to deal with. Tough, fair and willing to tell it like it is in order to get to a clear, open dialogue.



It is coincidental that Riverside has a teleport run by one of the great companies in our business, Intelsat. But the ideas shared with Kristin apply, or should, to a conflict that you will hear something about in panels and booth conversations at NAB. It involved Intelsat and other satellite operators.

On March 23 the teleport industry issued an important satellite operator benchmark report. You can read about who did well and who needs to improve, in the view of teleport operators in the White Papers section of the World Teleport Association website (www.worldteleport.org). Overall, teleport operators gave lower marks to their satellite partners in "commercial" aspects than in operational, or technical ones. As a group, the primary recommendation for improvement was for satellite operators to take "an improved partnership approach to business" with teleports. Let me translate that for you: they want operators to be a bit kinder and more open to the needs of their businesses so that all can prosper. "Doing good is good for business," says the Riverside-based author.

The issue of capacity management and pricing and the need –or the *perceived* need—to compete in the same channel goes to the very heart of this issue between the ground segment and the birds in the skies. Each operator handles it in a way that suits company strategy, its shareholders and accommodates its philosophy for customer relations. Is there a right or a wrong way to do it? The teleport industry leans toward the collaborative approach which, if we are to accept Ms. Tillquist's research, does work most of the time. It is at the root of any business or industry that is built to last.

Over the course of the year in this "Back and Forth" column we will explore this issue in more depth with teleport and satellite operators, as well as neutral and not-so-neutral players in the game. What's your view? Let me know by sending an email to LZacharilla@sspi.org

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

BroadcastAsia and CommunicAsia 2011: Asia's Premier Industry Event

Three months from opening, Broadcast Asia and CommunicAsia 2011– Asia's premier business event for the global broadcasting, digital media and infocomm technology industries – are poised to achieve a milestone year.

To be held from 21 - 24 June at the Suntec Singapore and the new Marina Bay Sands respectively, BroadcastAsia and CommunicAsia 2011 will return as the industry event of choice in Asia. The event will serve as the launch pad for companies to introduce cutting-edge technologies and solutions designed to enhance global connectivity for consumers and businesses, and shape the future of digital content delivery across the world.

CommunicAsia 2011 will be held at the brand-new Marina Bay Sands Expo and Convention Center located in the heart of Singapore's business district. (photo: Marina Bay Sands)

These developments follow the success of last year's event, which attracted a total of over 55,000 industry visitors, exhibitors, conference speakers and delegates, and media guests from over 100 countries and regions. In 2011, attendees can look forward to a myriad of the newest technologies, products and solutions from about 2,000 multinational and small and medium companies.

"There is no other combination of events worldwide where the broadcasting, digital media and infocomm technology industries come together in one city during the same week. Together, BroadcastAsia and CommunicAsia serve as the key international platform in Asia for business leaders, government officials and trade professionals to network, discuss the hottest industry trends and critical issues, and pursue high-growth opportunities that will shape the way digital content is delivered to and between us, both in work and play," said Victor Wong, Project Director of Communication Events, Singapore Exhibition Services.

The 16th International Digital Multimedia & Entertainment Technology Exhibition & Conference

"Hosting the events in their new, downtown venues will enhance sourcing activities, networking opportunities and knowledge-sharing potential both on and off the exhibition floors. In today's fast-paced, ever-changing technology industry, face-to-face and open forum meetings have never been more important."

BroadcastAsia2011

Asia's leading digital multimedia and entertainment industry event, BroadcastAsia2011 continues to be the most important platform for industry leaders and professionals to form strategic partnerships and gain unique insights on the latest broadcast and digital multimedia technologies, solutions and equipment. With GDP growth in Asia forecasted at about 7 per cent in 2011, higher than any other region in the world, the trade show is expected to garner strong interest from emerging markets across Asia. In its 16th edition, BroadcastAsia2011 will showcase a global array of the latest technologies, applications, equipment and solutions in film and TV. Themed "*Integrating Technology, Experiencing Content,*" the spotlight at this year's show will be on the latest in 3D, playout services and special effects technologies as well as Hybrid broadcast broadband TV (HbbTV), a new technology projected to be an industry game changer.

With the momentum behind the growth of 3DTV and HDTV panning out in the market, the BroadcastAsia 2011 International Conference will offer more sessions to address the latest needs and technologies in the broadcasting industry. This year, more than 60 renowned speakers will cover topics related to IPTV, Digital TV and HbbTV - one of the most exciting developments in the broadcasting and media industry today.

CommunicAsia2011

CommunicAsia2011 is the business networking platform of choice in Asia for the global ICT community and offers attendees the unique opportunity to witness the forefront of industry technology and innovation, as well as the chance to preview and test the newest technologies that will shape the future of communications.

CommunicAsia2011
The 22nd International Communications and Information Technology Exhibition & Conference

Themed "*Shaping Vision, Creating Reality*," CommunicAsia2011 will feature breakthrough developments that push satellite technology boundaries, as well as a sneak peek into the latest market-ready devices and solutions and dynamic new industry deals set to change the pace of ICT communications in Asia and worldwide.

Special TechZones will be introduced to the exhibition show floor. The TechZones will feature cutting-edge products, technologies and solutions, such as for OEM/ ODM in Action, 'Fibre' for the NextGen Services, NextGen Services and Applications, and many more.

The CommunicAsia2011 Summit will feature distinctly titled forums and workshops that address the most compelling issues and challenges in the ICT industry. This year, the spotlight will be on broadband driven trends, Cloud Computing and Mobile Value Added Services. Extended sessions dedicated to these topics will be added to the conference, alongside the latest topics on Satellite Communications, Security, and the ever growing Mobile Marketing industry.

In conjunction with CommunicAsia 2011, EnterpriseIT 2011 will comprise two TechZones – Sustainable ICT and Cloud Computing – and showcase key and emerging enterprise solutions that meet evolving needs of the *"The Business World of Tomorrow."* The event will bring together international buyers and sellers to evaluate business opportunities. Exhibitors will comprise software and IT systems providers, and include key companies such as Ecquaria, Extreme Networks, NComputing, Starvision and Zoho, among others.

BroadcastAsia2011:

Dates: 21 - 24 June 2011
Venue: Suntec Singapore
Web: www.broadcast-asia.com

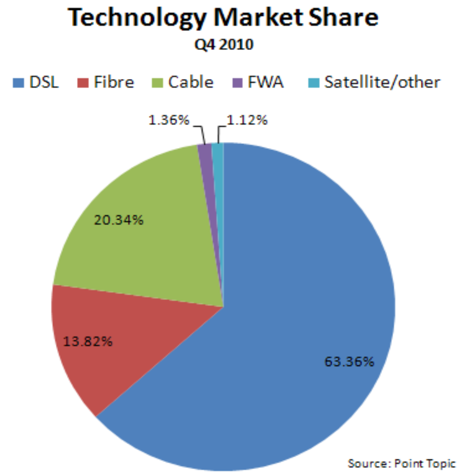
CommunicAsia2011/ EnterpriseIT2011:

Dates: 21 - 24 June 2011
Venue: Marina Bay Sands Singapore
Web: www.communicasia.com

Vital Statistics

Only 1.12 % of Global Broadband Subscribers Get Access Via Satellite

According to the latest figures by the Broadband Forum and Point Topic, satellite technology has just 1.12 % share of the over 500 million broadband subscribers worldwide. DSL continues to be the global access leader with 63.36% share or 331 million subscribers. Cable's market share is eroding and now sits at 106 million, while fiber is growing fast and is now serving 72 million customers. Fixed Wireless Access (FWA) and alternative internet access technologies continue to add market share as markets start to penetrate some areas where for various reasons it is difficult to deploy traditional fixed line access.



Calendar of Events

April 9-14, 2011 **NAB 2011**, Las Vegas Convention Center, Las Vegas, Nevada, USA Tel: +1-800-342-2460 or +1 (202) 429-3189 E-mail: register@nab.org web: www.nabshow.com

May 9-11, 2011, **Global Space and Satellite Forum**, Abu Dhabi, UAE, Tel: +971-4-447-5357 E-mail: mail@gssforum.com web: www.gssforum.com

May 23-24, 2011, **MilSatCom Asia**, Singapore, Contact : Marta Levy Tel: +65 66 4990 95, email mlevy@smi-online.sg web: www.smi-online.co.uk milsatcomasia15.asp

May 30-June 2, 2011 **SatCom Africa 2011**, Sandton Convention Center, Johannesburg, South Africa Tel: +27 11 5164059 E-mail: tatum.willis@terrapinn.co.za web: www.satcomafrica.com/

June 20, 2011 **CASBAA Singapore Satellite Industry Forum,** Shangri-La Hotel, Singapore Contact: Agnes Chan Tel: +852 3929 1728 or email agnes@casbaa.com web: www.casbaa.com

June 21-24, 2011 **CommunicAsia, 2011**, Singapore, Marina Bay Sands Convention Center, Tel: +65-6233-6638 E-mail: vw@sesallworld.com web: www.communicasia.com

June 21 -24, 2011 **BroadcastAsia2011,** Singapore, Suntec Convention Center, Tel: +65-6233-6638 E-mail: ck@sesallworld.com web: www.Broadcast-Asia.com

The Satellite Markets 25 Index™

Company Name	Symbol	Price (Mar. 31)	% Change from 2-Weeks Ago	52-wk Range	% change from 52-wk High
Satellite Operators					
Asia Satellite	1135.HK	14.50	7.41%	11.20 - 14.90	↓ 2.68%
Eutelsat Communications	ETL.PA	28.18	4.06%	24.82 - 29.70	↓ 5.10%
Hughes Communications Inc.	HUGH	59.67	0.13%	21.19 - 64.00	↓ 6.77%
Inmarsat	ISAT.L	605.50	4.94%	562.50 - 831.00	↓ 27.14%
SES Global FDR	SES.F	18.05	-0.55%	16.36 - 19.01	↓ 5.02%
Satellite and Component Manufacturers					
Boeing Company (The)	BA	73.93	6.99%	59.48 - 76.00	↓ 2.72%
COM DEV International	CDV.TO	2.27	3.65%	1.61 - 3.08	↓ 26.30%
Lockheed Martin Corporation Com	LMT	80.40	-0.16%	67.68 - 87.06	↓ 7.65%
Loral Space and Communications	LORL	77.55	3.62%	33.30 - 85.16	↓ 8.94%
Orbital Sciences Corporation Co	ORB	18.92	5.11%	12.66 - 19.52	↓ 3.07%
Ground Equipment Manufacturers					
C-COM Satellite Systems Inc.	CMI.V	0.40	17.65%	0.26 - 0.46	↓ 13.04%
Comtech Telecommunications Corp.	CMTL	27.22	1.64%	20.19 - 33.38	↓ 18.45%
Harris Corporation	HRS	49.60	6.62%	40.24 - 54.50	↓ 8.99%
EMS Technologies, Inc.	ELMG	19.66	3.64%	13.78 - 20.95	↓ 6.18%
ViaSat, Inc.	VSAT	39.84	3.97%	30.60 - 46.00	↓ 13.39%
Satellite Service Providers					
Gilat Satellite Networks Ltd.	GILT	5.30	6.43%	3.95 - 6.25	↓ 15.20%
Globecomm Systems Inc.	GCOM	12.33	15.34%	6.52 - 12.17	↑ 1.31%
International Datacasting	IDC.TO	0.38	-2.56%	0.23 - 0.50	↓ 24.00%
ORBCOMM Inc.	ORBC	3.30	3.42%	1.64 - 3.86	↓ 14.51%
RRSat Global Communications Net	RRST	7.20	-2.70%	6.70 - 12.18	↓ 40.89%
Consumer Satellite Services					
British Sky Ads	BSYBY.PK	53.21	0.11%	30.54 - 54.84	↑ 23.55%
DIRECTV	DTV	46.80	4.46%	32.88 - 47.40	↓ 1.27%
DISH Network Corporation	DISH	24.36	2.01%	17.33 - 24.76	↓ 1.62%
Globalstar, Inc.	GSAT	1.27	20.95%	1.00 - 2.11	↓ 39.81%
Sirius XM Radio Inc.	SIRI	1.65	-3.51%	0.84 - 1.88	↓ 12.23%

INDEX	Index Value (Mar. 31)
Satellite Markets 25 Index™	1,271.49
S & P 500	1,325.83

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 an investment benchmark to gauge the overall health of the satellite industry.