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In-Flight Broadband: Ready for Takeoff

By Michelle Elbert

The availability of wireless access to the Internet away from the home or office is not only becoming more pervasive, but consumers are actively seeking it out. A 2009 study by Wakefield Research for the WiFi Alliance indicated that 79% of the 480 business-class passengers polled would take the availability of in-flight Internet into account when choosing an airline.

What do we mean by "in-flight Internet"? For our purposes, "in-flight Internet" provides Internet connectivity for passengers of commercial airlines in a way that does not interfere with the safe operation of air craft instruments. This connectivity can be through WiFi, Ethernet cables or a seatback screen. There are companies that provide connectivity to privately owned aircraft and other vehicles, such as Yonder by ViaSat, however we will be focusing on service intended to be sold or re-sold to passengers of commercial airlines.

When comparing the download/upload speeds claimed by the various providers, some give the speeds seen by the end user passenger, while others advertise the speeds provided by the service as a whole. However, GoGo Inflight's claim of speeds "equivalent to the connection from a hotspot at a coffee shop" appear to be the norm across the board from the consumer's point of view. This is the sort of service consumers have come to expect from Internet access away from their home, office or hotel room.

The earliest example of in-flight Internet to commercial passengers was the Connexion by Boeing service, commercially available in 2004. Aircraft for companies such as Lufthansa and Korean Air were equipped with a phased array Ku-Band antenna and later a low-profile mechanically-steered antenna designed and produced by Mitsubishi Electric Company. Connexion had transatlantic coverage, including Western Europe, the "lower 48" of the US and much of Central America. This was achieved using four satellites; AMC 4, Telstar 5, Intelsat 709 and Eutelsat II F4. Consumers were able to connect to the Internet using either an Ethernet cable or WiFi. In 2006, the commercial end of Connexion was shut down. Several reasons have been sited for this, including a number of airlines pulling out of the project, possibly as a result of post 9/11 decreases in travel.

Since then, airlines have become more interested in making the commitment to providing in-flight Internet. A 2009 study by In-Stat indicates that by the end of 2010, there will be approximately 2,000 commercial aircraft deployed with some sort of Internet service. North American and international service includes offerings from OnAir, GoGo Inflight, Row 44, eXconnect and Inmarsat.

GoGo Inflight by AirCell, first available in 2009 on Virgin

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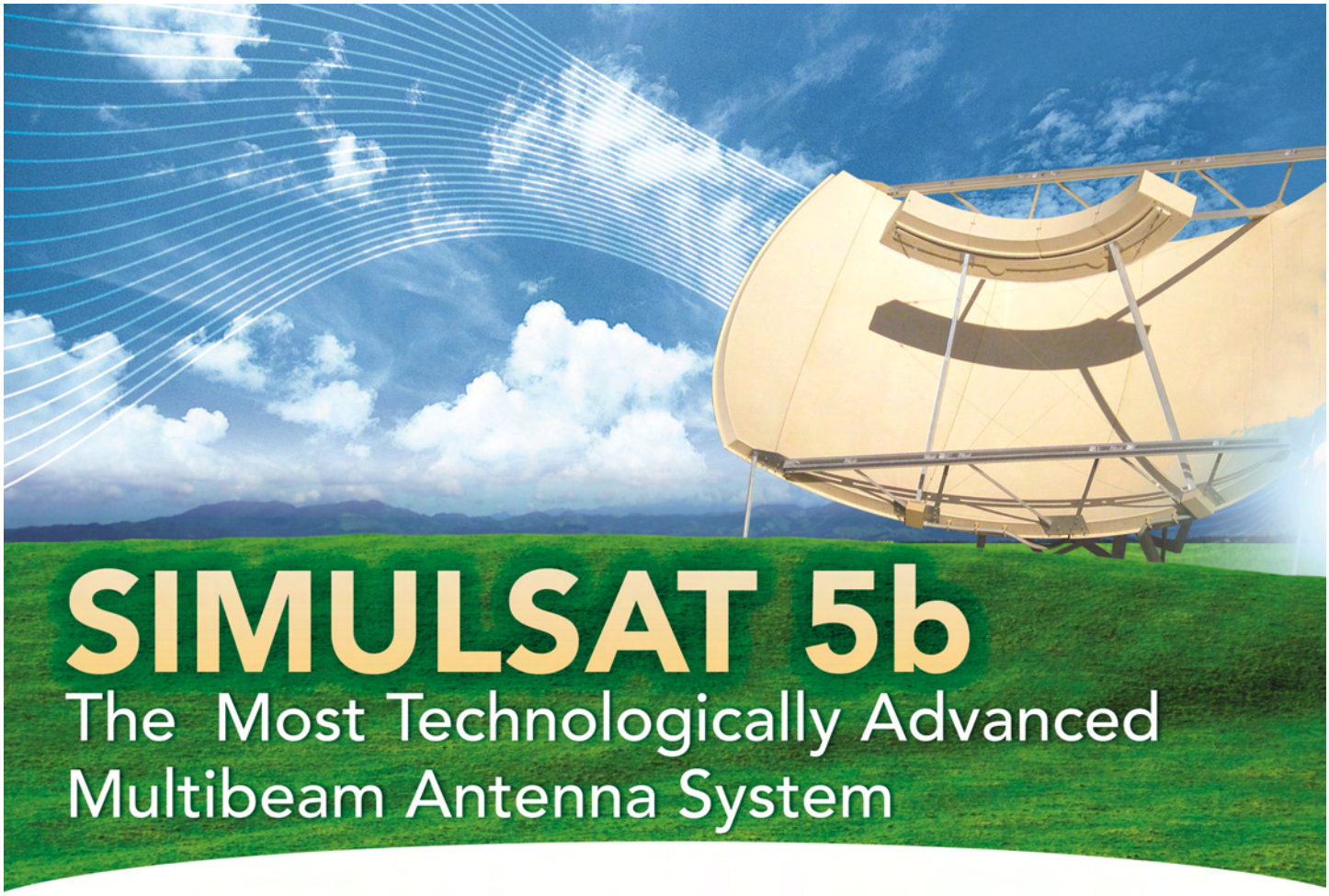

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Multiplatform Delivery of Content

As it now *de riguer* for the major trade shows, IBC 2010 in Amsterdam last month showcased 3D and HDTV. But the most important highlight of the show to my mind, are the developments in content distribution and management.

This is definitely not your father's IBC, which started 43 years ago in 1967, and is now the premier broadcasting conference and exhibition in Europe. This year's conference focused on content delivery in the new multiplatform environment that we live in and how it has change dramatically in the last few years.

Consumers of media now have a panoply of choices of getting content over the traditional way of getting content from over the air television or via satellite or cable. Now they can get it through their cell phone, mobile devices, computer, IPTV and may more.

View video and audio interviews of key satellite industry executives at IBC 2010 at www.satellitemarkets.com/current

Some broadcasters see the new eclectic media environment as a threat due to the difficulties in monetizing their content in the new media and security piracy issues. But the future is here now and there's no turning back. More choices means more bandwidth requirements and for satellite service providers this should always be viewed as an opportunity.

Check out the video interviews with satellite industry executives at IBC who talk about this and other important developments in the industry at www.satellitemarkets.com/current

Virgil Labrador

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In-flight Broadband.... from page 1

America, is the current leader in North America using a ground based system and bandwidth taken over from Air-Phone. Roughly 98 cell towers turned upwards across the lower 48 of the US and Canada provide coverage for the AirCell Iridium Blade antenna installed on aircraft from Virgin America, United, US Airways, Continental and Air Canada, among others. The service is fast enough for my iPhone to stream music from an Internet radio station like Pandora.com or last.fm and provide a pleasant listening experience.

GoGo	ConneXion	Swift Broadband	Row 44	eXConnect
"speeds equivalent to the connection from a hotspot at a coffee shop"	Downlink speeds of 20 Mbit/s and uplink speeds of 2 Mbit/s	"The bandwidth depends on a number of factors such as the avionics installed on the aircraft and up to a maximum of 864 Kbps"	Averaging 30 Mbps in the downlink and 620 Kbps maximum in the uplink	30-50 Mbit/s from the satellite, 1.5 Mbit/s in the opposite direction.

Swiftbroadband by Inmarsat uses the three L-band I-4 satellites which provide near global coverage. There are a number of compatible antennas for commercial applications of the service, one example of which is the CMA-2102SB by Esterline CMC Electronics. The Swiftbroadband service was launched in 2005 and is currently being utilized by OnAir and AeroMobile. OnAir was founded in 2005 by AirBus and SITA. It provides connectivity to passengers through WiFi. The service is popular with European and MENA airlines such as TAP Portugal, Royal Jordanian, British Airways (transatlantic flights from London City Airport to JFK only) and Air Blue among others.

Row 44 was founded in 2004 by John Guidon and Gregg Fialcowitz. In 2009, Southwest airlines began testing Row 44's service on four of their planes. Since then, they have continued to equip their aircraft with Ku-band antennas providing WiFi accessible Internet through the HughesNet capacity leased by Row 44. It is estimated Southwest's entire fleet will be equipped with the service by 2013. The company's service can provide Internet access, live television and cell phone services (if permitted) for commercial air passengers. They are also able to provide airline operations services for cockpit and crew.

eXConnect was formed in 2008 by Panasonic Avionics. The service, providing Internet and other entertainment by WiFi, Ethernet or seatback screen, should be available towards the end of 2010 or the early part of 2011 on Lufthansa as the newly reformed "FlyNet" (originally provided by Connexion by Boeing). For Lufthansa, eXConnect will use the already base of Connexion Ku-band antennas but is currently exploring the possibility of hybridizing their network into Ka as well. eXConnect's dual-panel tracking antennas are produced primarily (though not exclusively) by EMS Technologies. Cathay Pacific is currently slated to begin using eXConnect in 2012 with three unannounced potential clients to follow.

The In-Stat report on in-flight Internet equipment investment and service adoption indicates that, in 2009, an estimated 2% of seats on Internet-equipped flights used the service. However, the Wakefield/WiFi Alliance study showed that 71% of their business-class passengers said they would prefer Internet access to meal service on cross country flights and 79% would rather have Internet then a free movie. A study done by Alaska Airlines with Row 44 (before switching to GoGo Inflight as their provider) covered flights involving nearly 3,000 commercial passengers. The correlation between people who tried the service and planned on using it again was nearly unanimous. However, they discovered when they charged a $1 connection fee, usage dropped off significantly. In an interview with CNN International (Oct. 14, 2009), Ron LeMay, President and CEO of Aircell, countered that the tests were done on very short flights. He argued the longer a flight is, the more attractive the service becomes to the passenger. LeMay indicated they have seen "people paying the full fare" (for the service) growing by 6% per week.

Price-wise, GoGo Inflight has the advantage of having the lowest advertised price to the consumer with rates from $4.95 - $12.95 depending on the length of the flight, including a 30-day pass for $29.95 providing the user access on any airline equipped with GoGo.

GoGo's terrestrial based service is pulling ahead in brand recognition and a degree of acceptance. However, both terrestrial and satellite in-flight Internet has been proven from a technical point of view. With 94% of the business-class travelers polled by Wakefield for WiFi alliance agreeing that adding Internet to flights is the best thing airlines have done for their customers in the last three years, it seems that it's been proven from a consumer view as well. Going international and global the satellite based services face financial and coverage challenges, although Inmarsat and others offer satellites that can serve the required flight routes. There is still an excellent potential as proven on-the-move technologies give an edge that can bring them to the fore and create viable businesses.

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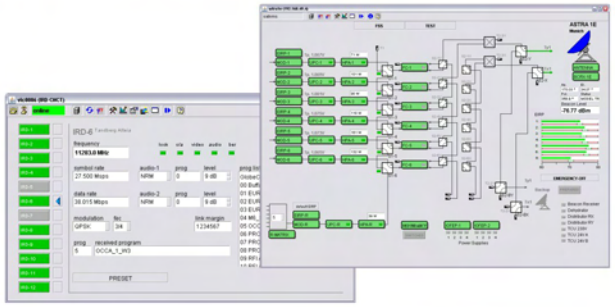

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News*Briefs*

A summary of the most important news and developments in the last two weeks.

MERGERS & ACQUISITIONS

GlobeCast Acquires HD Playout Facility in Singapore and Launches Post-Production Services in Asia

October 5- GlobeCast has expanded its facilities in Asia with the addition of a new multi-channel HD playout facility, as well as new staff for post-production and playout services. This expansion was made possible by the close collaboration with **Technicolor.** New post-production and creative services will also be available from GlobeCast's Parkview Square facilities. These facilities will expand to house the increased range of services.

The expansion comes at a time when GlobeCast has been increasing its range of services in the area of Media Asset Management and playout worldwide, according to GlobeCast. With the integration of the post-production and creative activities of Technicolor in Singapore, GlobeCast can now offer promo/interstitial creation, audio dubbing, subtitling and compliance editing services in addition to playout, program origination and digital media asset management services - providing a complete one-stop shop for broadcasters.

Astrium Acquires Jena-Optronik

October 4—Astrium has acquired German space sensors and optical systems specialist **Jena-Optronik**, Jena-Optronik develops attitude sensors and space-based optics for a variety of different platforms, including Earth observation satellites and the laser guidance system for the European International Space Station supply vessel, ATV. The company will remain independent under Astrium and maintain its individual brand.

SeaSpace Acquires Remote Sensing Solutions Division of Vexcel Corporation

October 8—SeaSpace Corporation announced the acquisition of the Remote Sensing Solutions products and services division of Vexcel Corporation. The acquisition will immediately transfer remote sensing products to SeaSpace Corporation including Apex™ Remote Sensing Data Management System, various Synthetic Aperature Radar (SAR) software packages (including Focus™, Phase™, CALPRO™, Swath™, Scatter™, CCD Map™, OrthoSAR™), VersaSAR (a mobile SAR system capable of measuring small displacements), and Wireless Sensor Network Node (WSNN). SeaSpace will sell the products under the SeaSpace name.

CONTRACTS

TeleCommunication Systems Receives $9.3 Million Worldwide Satellite Systems Order from the U.S. Army

October 8- TeleCommunication Systems, Inc. has been awarded a new order with a ceiling value of $9.3 million to provide satellite terminal spare parts to the U.S. Army. The order is initially funded at $5.3 million and will be funded up to a total of $9.3 million if the options are fully exercised through August 2011.
This award was made under the Army's $5 billion World-Wide Satellite Systems (WWSS) Indefinite Delivery Indefinite Quantity (IDIQ) contract vehicle in support of the Project Manager for the Warfighter Information Network -Tactical (PM WIN-T). Under the WWSS procurement vehicle, customers may place orders through August 2011 for delivery up to a year thereafter.

Wavestream Receives US $19M Order for High Power Ka-band Solid State Amplifiers

October 5– Wavestream Corporation has received a US $19 million purchase order from General Dynamics SATCOM Technologies for the company's high power 50W Ka-band solid state amplifiers to support U.S. Army and Marine Corps satellite communications systems. Product deliveries are scheduled starting in October 2010.

Wavestream's Ka-band products are currently used to support warfighters in the most extreme operating environments. The product has demonstrated exceptional reliability and performance. Wavestream's Ka-Band SSPA is an outdoor, environmentally sealed, compact product that can be mounted close to the antenna feed to reduce waveguide loss. As with all Wavestream products, it is fully tested over the entire operating temperature range and frequency band to guarantee in-spec performance under all operating conditions.

Iridium Signs Coface Facility Agreement

October 4 – Iridium Communications Inc. has signed the definitive Coface Facility Agreement to finance its next-generation satellite constellation, Iridium NEXT. The syndicate of nine banks is led by Deutsche Bank AG, Banco Santander SA, Société Générale, Natixis and Mediobanca International S.A., and includes BNP Paribas, Crédit Industriel et Commercial, Intesa Sanpaolo S.p.A. and Unicredit Bank Austria AG. They will provide up to $1.8 billion of financing to Iridium for the design and manufacture of Iridium NEXT satellites. The funding under the Facility is subject to customary closing conditions, which are expected to be met shortly.

The credit facility consists of two pro rata tranches. One tranche of up to $1.537 billion will bear a fixed interest rate of 4.96% per annum. The second tranche of up to $.263 billion will bear a variable interest rated based on LIBOR[1] plus 1.95% per annum. Based on the current six-month LIBOR, the interest rate on this tranche would be 2.41% per annum. The repayment period of seven years begins following substantial completion of the Iridium NEXT launch program, which is expected to occur in 2017.

Société Générale, Goldman Sachs & Co., and Hawkpoint Partners Limited advised Iridium in connection with the financing.

KVH Wins $42 Million U.S. Coast Guard Contract

October 1- The U.S. Coast Guard selected KVH Industries, Inc., to supply the next-generation satellite communications solution for its small cutter fleet. The winner of a full and open competitive procurement process, KVH's TracPhone® V7 satellite communication system and the mini-VSAT Broadband service becomes the U.S. Coast Guard's Small Cutter Connectivity (SCC) Ku-Band System and Air Time Support Services solution.

The U.S. Coast Guard Telecommunications and Information Systems Command (TISCOM) will deploy it over a 3-to 5-year period aboard as many as 216 small cutters representing 16 different cutter classes. The contract, encompassing the shipboard hardware, airtime services, and support, is a 10-year Indefinite Delivery/Indefinite Quantity (IDIQ) Contract valued at approximately $42 million. In conjunction with the contract award, KVH has also received the first task order from the U.S. Coast Guard to begin program implementation immediately. Supporting KVH in this multi-year effort will be network partner ViaSat, Inc., and logistics partner Mackay Communications.

Calendar of Events

October 5-7, 2010 **APSCC Broadcasting and Space Conference and Exhibition 2010** Tokyo, Japan Tel:+82 31 7836246
E-mail:info@apscc.or.kr web: www.apscc.or.kr

October 13-14, 2010 **SATCON 2010** Javits Convention Center, New York City, USA, Tel: +1 (203) 371-6322
E-mail: info@jdevents.com web: www.satconexpo.com

October 25-28, 2010 **CASBAA Convention 2010**, Grand Hyatt Hotel, Hong Kong, Tel:+ 852 28549913 .
Email:casbaa@casbaa.com web:www.casbaaconvention.com

November 23-24, 2010, **3rd Annual Oil & Gas Communications South East Asia Conference: Redefining the Digital Oilfield Onshore, Offshore, Deep & Ultra-Deepwater (O&CGSEA2010),** Crowne Plaza Mutiara Hotel, Kuala Lumpur, Malaysia web: www.ukemp.co.uk/3rd.O&G.SEAsia.2010/

December 6-8, **2010 DoD Commercial SATCOM Workshop,** Hyatt Crystal City in Arlington, Virginia
E-mail: info@sia.org web: http://www.dodsatcom.com/ginfo.html

DTH Markets Expand in Last 12 Months

But Future Remains Mixed according to NSR

October 1- According to NSR's new report, *Global Direct-to-Home (DTH) Markets, 3rd Edition*, the DTH market is showing signs of maturity as developed economies reach saturation after analog switchovers, even as developing economies continue to increase subscriber numbers. At the end of 2009, a total of 113 DTH operators carried television services to over 130 million subscribers, up 14% from last year. The industry generated a staggering $70 billion in subscription revenue at a blended ARPU of $45. For satellite operators, the demand for over 850 transponders maintains DTH applications as the single largest satellite bandwidth consumer. Although the last twelve months was a strong growth period for all regions, NSR expects subscriber growth in the next year to move further away from developed economies towards South Asia and Eastern Europe.

NSR's country-by-country approach allows it to quantify the impact of the economic changes on each region's individual performance. Primary research, in the form of extensive interviews, confirmed that there is no universal truth that governs all platforms. Leading the way, North America is beginning to show signs of slowing down when it comes to DTH subscriber additions. As the United Kingdom's leading operator nears the 10 million mark, Scandinavian providers are losing subscribers to competitive platforms. While operators in the Middle East emerge from a major consolidation, those in Central and Eastern Europe head towards a similar end in a struggle for profitability. Lastly, Sub-Saharan Africa is starting to mimic South America as smaller low-cost platforms emerge in populous countries to challenge the incumbent.

In some parts of the world, governments have played a supporting role by enforcing the migration to digital television, while in others like Southeast Asia, they have blocked entry of DTH operators in an attempt to shield national providers. Even a seemingly simple assumption that growing subscribers adds to profitability is negated by India where platforms are losing money for every new subscriber because of subsidies.

The response to premium services such as High Definition and Digital Video Recorders is polarized even further with the United States and United Kingdom accounting for nearly 80% of premium subscribers.

Highlighting the key findings of the report, NSR Senior Analyst, Prashant Butani comments, "The Pay TV industry as a whole is becoming extremely competitive, be it over-the-top television in North America, digital terrestrial television in Europe or low cost DTH platforms in Africa and India. As far as subscriber growth is concerned, the balance of power has shifted further East with countries like Poland, Russia and India at the forefront. Financially, operators are being forced to rely on advertising and value added services, which will result in considerable pressure on margins."

"...The Pay TV industry as a whole is becoming extremely competitive, be it over-the-top television in North America, digital terrestrial television in Europe or low cost DTH platforms in Africa and India…"

About the Report

The Global Direct-to-Home (DTH) Markets, 3rd Edition report is a multi-client report now available from NSR. Extending the reach of the 2nd Edition from Market and Industry to Financial coverage, NSR provides a data-intensive look at the DTH industry. In order to capture all facets of this multi-dimensional industry, NSR built extensive databases of Channels, Subscribers and Revenues for over 113 DTH operators around the globe.

In addition, each of the industry's parameters has been segmented into four distinct market segments namely, Standard Definition, High Definition, Digital Video Recorder and High Definition Digital Video Recorder. NSR has gone a step further with the 3rd Edition to include a complete financial analysis of each region focusing on Operating Expenses, Earnings and Margins. Over 20,000 data points spanning 10 distinct regions have been formulated to give readers what they value most – the bottom line.

For additional information on this report, including a full table of contents, list of exhibits and executive summary, please visit www.nsr.com or call NSR at 617-576-5771.

50 Million 3D TV Set by 2015

October 6-In 2013, according to ABI Research, market growth will start to accelerate, and shipments of 3D TV sets will approach 50 million in 2015. "The 3D TV market is moving faster than expected," notes industry analyst Michael Inouye. "There was widespread skepticism that production models would be available so quickly. But by June this year many TV manufacturers had 3D models in their line-ups. Most 3D TVs will be Internet-connected."

The popularity of 3D movies has been a primary driver. TV makers are looking for differentiation and a reason for premium pricing. With some of the biggest-selling movies ever in 3D, and customers willing to pay more for the experience, they saw an opportunity to bring that experience to the home. But there are inhibiting factors. "Unfortunately the 3D movie experience doesn't always translate well to the smaller screen," says Inouye. "Some sports programming is also problematical: wide fields and big stadiums just don't lend themselves to 3D."

Another inhibitor is expense, adds digital home practice director Jason Blackwell. "Not only do 3D TVs command high prices, but the active infrared glasses needed for the most common 3D technology can cost $150 a pair, and glasses from different manufacturers are incompatible."

However gaming "makes a lot of sense" for 3D, say the analysts. There's a huge installed base of game consoles, and both the Xbox 360 and the PS3 can support 3D content, and all PS3s support 3D Blu-ray.

A new ABI Research study, "3D TVs" includes forecasts for flat-panel TVs, 3D-ready TVs, and consumer survey data from July 2010. The discussion also includes market drivers and inhibitors which will impact the consumer adoption of the technology.

Global Broadband Subs Reach 500 Million

Oct. 1– Broadband has taken a significant step forward as the number of subscriber lines passed the 500 million mark in July 2010. The milestone was revealed as the Broadband Forum provided its global Broadband and IPTV Industry Update at its quarterly meeting in Hong Kong today. Research by industry analysts Point Topic (http://www.point-topic.com) pinpointed the actual date as being in the third week in July 2010.

"...This is an extremely significant milestone and it reflects the critical importance of broadband in our daily lives, both for business and leisure...."

Robin Mersh, Chief Executive Officer of the Broadband Forum, said: "This is an extremely significant milestone and it reflects the critical importance of broadband in our daily lives, both for business and leisure. The Forum is already looking ahead to the next half billion lines and the challenges and opportunities that such rapid global growth can present. "Today is a day to celebrate, but we continue to work towards strategic broadband evolution goals and our work on IPv6 and helping service providers to support its integration is part of our role in anticipating and solving the issues before they arise. This is the one of the key initiatives that is paving the way for the next milestone to be achieved," said Mersh.

The new figures show that global broadband subscribers reached 498 million lines (497,768,162) by the end of June 2010, representing a 2.63% growth in the quarter and 11.99% in the last 12 months to end of Q2 2010. Oliver Johnson, CEO of Point Topic, said: "It has only taken 11 years to get to half a billion fixed broadband lines. The internet and all that it brings has taken hold like no technology since the invention of fire. It has brought the world closer together, improved health and education standards and introduced an era of cooperation and information sharing that will hasten economic growth and improve standards of living for potentially billions around the world."

Broadband growth continues in all regions. In a typically slow quarter with many markets, particularly in the Americas, reflecting the end of a number of central subsidies and stimulus packages there were still significant signs of some countries continuing their return to economic health:

- China – the powerhouse of global broadband in the 21st century so far was responsible for 43% of all net broadband lines added in Q2 2010 and performed far better than the same quarter in 2009 ('China' includes Mainland China, Hong Kong & Macau)
- In Western Europe many markets did better than the equivalent 2009 quarter. Germany, the UK, Italy, Spain, the Netherlands, Poland and Turkey amongst others all reported strong numbersCentral and South American markets have cooled to an extent but many are still reporting good quarterly growth (in the 5%-7% range)
- However North America, the USA and in particular Canada have significantly slowed and - in Canada's case - to levels not seen for a decade "The end of housing stimulus packages in North America has badly affected growth in broadband.
- However all other regions performed better in the second quarter of 2010 than the same period in 2009," said Oliver Johnson, CEO of Point Topic.

Continuing the trend from previous quarterly figures, Asia increased its share of the overall broadband market by a further 1.2% in the year Q209 to Q210 and by 0.41% in the last quarter alone. The region now accounts for almost 41% of the total, with Europe in second place with 30% and the Americas showing 26%. China is the biggest individual contributor to the Asian growth adding 5,470,888 lines bringing its total to 120,591,488, over 24% of the 500,000,000 lines achieved in the early part of Q3.

Elsewhere in the top 10 the real movement is from Russia and Brazil. Russia has a more consistent growth curve over the past few quarters compared to the stop/start nature of Brazil. As a result Russia is likely to overtake Brazil in the next three to six months to become the 9th largest broadband market.

The second quarter also highlighted a strong growth in IPTV subscribers with over 2.3 million new IPTV subscribers added to the total, making over 38.5 million people using IPTV world-wide by the end of Q2 2010. The growth is in line with broadband growth so the proportion of the world's broadband lines carrying IPTV remains the same as Q1 at 7.7%.

Europe still remains the most established region for IPTV with almost 19 million subscribers, of which almost half are in France. China (with Hong Kong and Macau) had the most net additions this quarter – 421,000 – ranking it second, with USA in third place with almost 6.5 million subscribers.

Corporate Social Responsibility and The Satellite Industry

By Stephen Tom

The global satellite industry is usually viewed as an extremely competitive and sometimes cutthroat business. Market share; revenue growth; market capitalization; and EBITDA compete for the attention of owners, management, and the investor community. However, there is a revolution going on supporting the idea that you can "do well by doing good;" that these measures of business success can be positively impacted by a thoughtful commitment to Corporate Social Responsibility (CSR).

But does it really work? Is there a sufficient benefit derived from embracing a CSR strategy across an entire corporation? What kinds of CSR programs have been implemented by satellite and satellite-related companies?

Satellite companies came through admirably during the recent Haiti earthquake by providing free satellite capacity, equipment and volunteer personnel. However, corporate responsibility can be manifested in many other ways during non-emergency situations.

Corporate social responsibility has many definitions. For the purpose of this article we're defining it as *"A conscious effort or program on the part of a business or organization to operate ethically and in socially responsible ways with respect to its stakeholders (i.e. employees, customers, investors, vendors, and the communities in which it does business)."* In this context businesses take actions that are not directly profit motivated, but that ultimately contribute to long-term corporate financial health and sustainability. These activities contribute to a positive corporate reputation and enhance the company's branding in the markets that it serves. In most cases CSR programs are separate and apart from corporate philanthropy.

CSR actions and programs take many forms. Typical forms (not always identified as CSR) include corporate support of staff volunteerism in the community; environmentally sensitive policies such as paper conservation, recycling, and so-called "green" energy programs. Reaching outside a company there are programs that deploy corporate assets, services, and technology to help communities and populations improve health, safety, social welfare, and education programs.

Whatever a company does to employ CSR is valuable on at least two broad fronts. On one front - taking the action is beneficial to all stakeholders internal and external to the company. On the other - telling people what you are doing leverages your good and beneficial work by using it to build your brand and reputation across the range of stakeholders that have an interest in your company. Additionally, companies are finding that CSR programs are of great interest to their employees and that employees take pride in working for a company that demonstrates that it values its communities and its employees.

Let's us look at examples of what three satellite operators are doing with their CSR programs.

Intelsat

In addition to internal programs such as a commitment to employee health programs; a continuing education program; and a CEO Awards program celebrating outstanding individual and team performance; Intelsat invests in SSPI's scholarship program to support the development of new talent for the industry; provides leadership in the Satellite Operators Interference Reduction Working Group benefitting the entire industry; and in partnership with iDirect Intelsat has supported the Children's National Medical Center telemedicine program in Morocco with annual donations of satellite capacity since 2008. During the Haiti earthquake, Intelsat and other commercial satellite carriers contributed satellite capacity to establish communications links during the days immediately following the earthquake. As the world's first international satellite carrier over the years Intelsat has contributed satellite capacity and networking expertise in response to many natural disasters and in support of numerous non-governmental organizations

(NGOs) involved in disaster response, international aid and international development.

SES Group

SES World Skies and its sister companies has been actively engaged in numerous CSR activities, intentionally focused on an education theme. They strive to have their CSR investments contribute to the development of a communications-based society and a knowledge-based economy:

- International Space University: Continuing scholarship support
- Society of Satellite Professionals International (SSPI): Ongoing support of SSPI's scholarship program
- St. Gallen Symposium 2009: Program support
- IDATE Foundation: Active membership in this strategic decision-making assistance entity.

Active contribution of satellite capacity in support of international agencies responding to disasters and managing international development

Thaicom

As a regional satellite carrier in Thailand, Thaicom and its sister company Lao Telecom focus many of their CSR programs on education and children.

"Thai Kids Thaicom" is centered on the donation of 999 DTV sets (satellite dishes and TV sets) given to remote schools across the country to give them access to 10 educational TV channels.

Wat Tabong School in Ayulthaya, Thailand gets broadband access via the contribution of an IPSTAR system.

Corporate support of Children's Day and "The Miracle in Our Universe" book shelf in school libraries across the country highlights science and satellite technology topics.

What can we conclude?

CSR is an important part of each company's strategy for community engagement and brand management. We know that each company promotes CSR by observing their ongoing messaging. We also know from conversations with two of the cited companies that large-scale cash investments are difficult to justify. At this time we don't know how they are measuring their return on investment without engaging them in a follow up dialogue, which may be an outcome of this article based on reader interest. In general, we know that each company has a good reputation and a positive brand and leadership image in the marketplace.

Recent research issued in June 2010 conducted by the Center for Creative Leadership (www.ccl.org) indicates that "companies have enormous potential to affect change in their communities and the environment by investing in CSR initiatives…" and that employees value a company's CSR involvement and commitment; "…but not more than basic job satisfaction." CCL goes on to conclude, "Though immediate benefits might be few, it is likely that the importance of CSR will increase in years to come as people become more interested in the social and environmental effects of corporations. Leaders who stay aware of CSR and the implications for their organizations will be able to make the most informed decisions."

CSR is not a panacea for addressing corporate challenges; it is a long-term investment in building brand, reputation, and in doing the right thing for stakeholders and shareholders. However, this writer believes that corporate leaders must take steps to implement and grow their CSR programs at a pace that stretches their organization financially and intellectually, while remaining responsible stewards of the total corporate agenda. As with any investment, measuring performance and returns should be an important element guiding a company's future investments in CSR.

To our readers

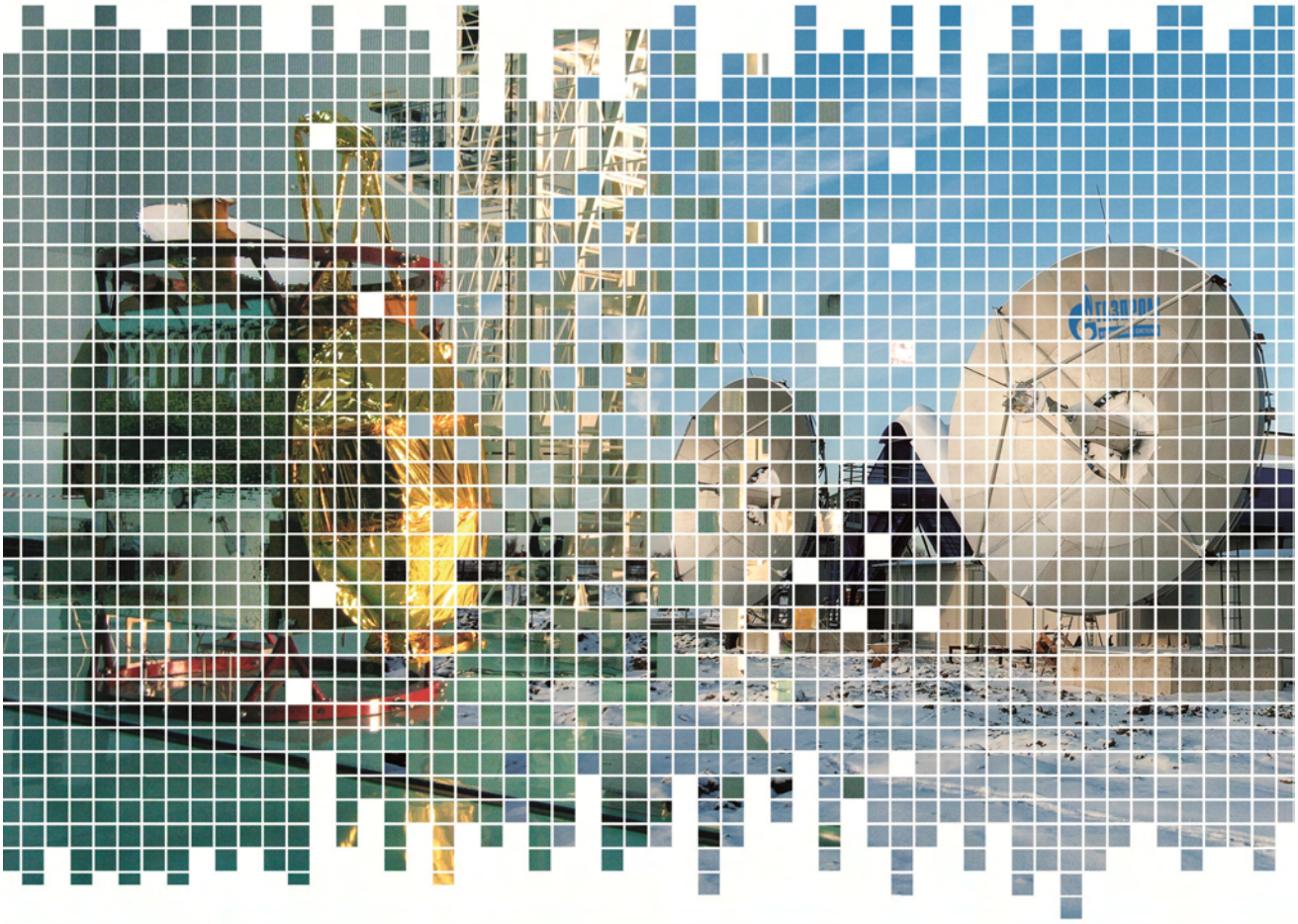
What are your views on CSR and its value to the satellite industry and the communities it serves? What are the successes achieved and challenges encountered by companies that you know that have implemented CSR programs, particularly during these economically challenged times? What should we do to enhance our CSR efforts for the benefit of our communities and our companies; or should we?

Send your comments and case studies to: Stephen Tom at stephengtom@gmail.com and watch for follow-up articles in future issues.

Stephen Tom is an international business development consultant. In sales and management positions for Bonneville Satellite, Keystone Communications, WIT (Washington International Teleport), and Pacific Telecommunications Council his focus has been on growing revenues and value. Most recently he was Director, Business Development, Asia-Pacific, for Intelsat. As a consultant he develops growth strategies for companies looking for new revenue opportunities; he provides teleport valuations; and he advises "Technology Consulting in the Global Community" at Carnegie Mellon University. He can be reached at stephengtom@gmail.com

GAZPROM
SPACE SYSTEMS

Gazprom Space Systems (formerly Gascom) – is a private commercial, non-governmental satellite operator based in Russia. The main shareholder is Gazprom, one of the largest energy companies in the world.



Gazprom Space Systems' orbital fleet consists of three mid-size satellites under the Yamal brand. The Yamal-100 and Yamal-201 satellites are co-located in 90E position. These satellites serve mainly the Russian/CIS market. The Yamal-202 satellite operating in 49E orbital slot has a wide service area covering most of the Eastern Hemisphere and caters to the international satellite market. The Yamal-300K, 401 and 402 satellites are under construction, while the Yamal-601 is in development.

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

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

Gazprom Space Systems has more than 200 clients in Russia and abroad. One fourth of Gazprom Space Systems' revenues come from the international markets.

By 2015 the company intends to increase its satellite capacity by 400 percent from current levels and to build a new teleport in the Moscow region. Currently, the new Yamal-300K and Yamal-401 and 402 satellites are under construction.

For more information go to www.gazprom-spacesystems.ru

(Advertisement)

How Ka-Band May Impact Today's Service Provider

By Robert Bell,
Executive Director, World Teleport Association

In the mid-1990s, at the SATELLITE show in Washington DC, one teleport executive turned to another and said, "This Internet thing. Think there's anything in it?"

It turned out that there was. In the satellite industry alone, the rapid adoption of Internet Protocol (IP) created a revolution. It launched a new line of business: Internet backhaul and trunking via satellite. Then the traditional dedicated circuits for video, data and voice began giving way to a single pipe carrying IP packets. Costs fell and capabilities exploded, as did customer applications and demand. Pretty good news for all concerned, despite the travails of the telecom recession that followed the bursting of the first IP bubble.

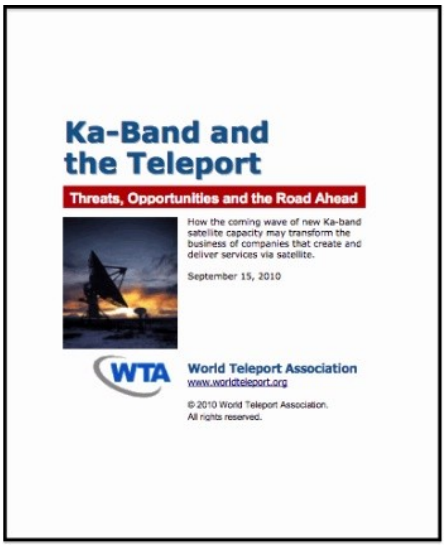
Next Act in the IP Drama

The next act in the IP drama is unfolding now. By 2014, satellite operators will have put over $5bn of new capacity into orbit operating in the Ka-Band frequencies, representing many times the current bandwidth of the entire orbital arc. How will that new market evolve? The answer could be of vital importance to the teleport operators and other companies that currently provide satellite services.

This is the subject of a new white paper from WTA called *Ka-Band and the Teleport*. It is based on interviews with Ka-Band operators and the top executives of teleport and technology firms. It details the significant threats as well as potential opportunities in the Ka-band revolution, and offers advice for satellite service providers on steps to take today to prepare for tomorrow.

The Ka-Band Business Case

The Ka-Band satellites being lofted into orbit take a completely different approach to network architecture than the satellites there now. While the operators are all focused on the low-hanging fruit of the world's underserved regions, their real goal is to make satellite broadband competitive with terrestrial broadband. That requires enormous efficiencies, which are only possible with a network that is tightly integrated between ground and sky. As designed, each satellite will be served by a small handful of ground stations, not unlike the Inmarsat Land Earth Stations today. If your company is lucky enough to be one, life could be good. But the overwhelming majority of the world's nearly 1,000 commercial teleport operators will not be in the club.



You might think that won't matter much, because Ka-Band will be used just to deliver consumer broadband. But consider this. The current VSAT market is likely to take a hit, according to experts, because Ka-Band may offer a substantially cheaper way to deliver higher levels of service. The Internet trunking business, launched by the success of IP, is likely to disappear if 03B's plans to target Ka-Band capacity to emerging and underdeveloped markets go forward.

But aren't most satellite service providers are in other lines of business, where they can escape the impact? Maybe. It depends on how successful the Ka-Band operators' business plans turn out to be. They are putting so much capacity into orbit so quickly that there is a real risk of a severe surplus. In which case, they would probably go looking for other markets to serve – video contribution, DTH, DTT distribution – which are core businesses of service providers today. And the cost advantages of Ka-band could be truly disruptive in those markets.

How worried should service providers be? Enough to pay attention, get involved in the market's development, and think through the implications for their businesses. And of course, they can start by taking a look at *Ka-Band and the Teleport* on WTA's web site at www.worldteleport.org.

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

Consumers, Maritime and "One Throat to Choke"

COMSYS VSAT 2010
London, September 14-17, 2010

by Elisabeth Tweedie

There were three recurring themes running through the Comsys VSAT Conference in London: helping close the digital divide, Mobility – Maritime in particular and integrated service provision.

Satellite's role in extending broadband services to unserved areas was frequent topic, with several speakers talking about satellite's role in eliminating the digital divide, not only in emerging markets but also in unserved areas of the developed world, where rural users are increasingly expecting the same services that their urban cousins can access. Government initiatives around the world are aiming to facilitate this although in many cases – the US being a prime example they take some persuading that satellite is a viable solution. In some cases the satellite service will be delivered directly to the consumer as it is in the US with WildBlue and Spaceway and in others satellite will be part of a hybrid network with the consumer being connected to a wired or wireless terrestrial service. With over 15 satellites (excluding O3b) either wholly Ka-Band or with a significant Ka-Band payload scheduled to be launched in the next few years we could be at the tipping point of consumer broadband satellite services. The US with around 1 million subscribers is obviously the current leader in this field.

David Drucker CEO of atContact described his company's service in Alaska where vast distances and inhospitable terrain make terrestrial connectivity expensive and problematic to deploy, maintain and operate. He illustrated this point very graphically talking about SABRE (South West Alaska Broadband Rural Expansion project) an integrated system funded by the USDA. SABRE serves a population of 30,000 people spread between 53 remote villages in an area roughly the size of the UK. 4G IP services – wireless, voice, video and data, are provided by a hybrid network consisting of WiFi with Satellite Mesh backhaul. David was confident that the Alaskan Model could be replicated globally, and other speakers talked about projects where this had happened or was happening.

O3b being a prime example. O3b's mission is to connect the Emerging Markets – the other 3 Billion. O3b counts Liberty, Google, HSBC, North Bridge, Allen & Company and SES amongst its investors. Debt financing has been secured from Coface and project financing is expected to be completed in the next few weeks. 8 Ka-Band 10 Gbps MEO satellites are expected to be operational in 2012 and 20 by 2015. Brian Holtz, EVP and CTO showing different network topologies that could be used by O3b depending on local needs. These included carrier class point-to-point connectivity, Wireless and Mobile backhaul, enterprise networks and Path Diversity to offload Metro Networks. A striking example was Thailand and Indonesia where O3b believes they can provide users with twice their current data rate at just over half the contention ratio for the same cost simply by using their satellites for backhaul and interfacing with the existing terrestrial network. The potential demand however is huge and even with a full constellation O3b addresses less than 0.5% of the Emerging Markets 3G backhaul needs.

VSATs are increasingly being used in Mobile situations, Maritime being the prime example, followed by aeronautical and COTM (Communications on the Move) the latter being primarily a Military or Government service. In the opening session Simon Bull pointed out that the prime driver for maritime applications was actually internet access for crew members. In 2007 80-90% of installations were for internet access, this figure is now down to 50-60% with engineering management, electronic charts and other value added services increasing in importance. Currently there are approximately 9,000 vessels with VSATs on board and Comsys forecasts 18,500 vessels by 2014 out of an immediately addressable market of around 35,000. The largest segment accounting for 34.6% is the commercial operators followed by Mass Sail Yachts at 29.5%. Compared to the average revenue from a fixed land based VSAT, revenue from maritime installations is significantly higher. The average is around $3-5,000 per month whereas for a fixed terminal $100-500 is the average. Specialized operators can earn as much as $50-100,000 per month from a vessel or rig.

However every new maritime VSAT customer was previously a high end L-Band Customer, which is one very good

reason for Inmarsat to be moving into the VSAT market with Global Xpress. Leo Mondale, Managing Director of Global Xpress gave more information about the constellation and service than had been disclosed previously.

In order to try and overcome the limitations of fixed beam satellites and allow Inmarsat the flexibility to respond to changing demand the 3 Ka-Band satellites will each have two payloads, fixed spot beams: 2x72x40MHz Channels operating simultaneously for each satellite and a High Capacity Overlay (HCO) of 6 fully steerable beams per satellite providing 2x12x125MHz Channels. Traffic from the fixed spots will be landed at the 3 Inmarsat Gateways – location TBD whilst traffic from the HCO may also be landed at those Gateways or may be landed within the beam or within another HCO beam.

Orbital slots are also to be decided. Co-location with Inmarsat 4s is desirable but neither guaranteed nor necessary and co-location with Inmarsat 3 may be more likely. However on the basis that "If you can't beat 'em –join 'em" Inmarsat is pursuing multiple filings. Once the slots are allocated frequency coordination will become a major issue, but Leo didn't see this as a major risk factor as "We're good at it".

One of the criticisms of the system has been that it's Ka-Band and rainfall is likely to be an issue in some of the areas served. Leo expressed confidence that they understood the physics of Ka-Band and had designed the system to provide a service equal to that of Ku-Band.

Since the vast majority of Inmarsat's target customers already have L-Band receivers there are no plans to produce an integrated L-Ka terminal and integrating the two services doesn't require this.

Obviously the architecture is different for a Ka-Band system serving a mobile market to that of one serving a fixed market and the efficiency is not as great. Therefore the service won't be as cheap as that provided by ViaSat1 for example, but there will be a cost advantage compared to a Ku VSAT for maritime.

The key target markets for Global Xpress are:

- Maritime as would be expected. Ships spending more than $5,000 per month on Ku Service and which need more than 5Mbps down are a key segment.

- Oil and Gas Exploration and Production – a return link of up to 5 Mbps over a 60cm antenna will be available to support data-intensive requirements of exploration and production.

"...Customers particularly multi-nationals and those in challenging environments want an integrated service. This was summed up most aptly by Peter Shaper CEO of CapRock Communications who talked about his customers wanting 'One throat to choke!'..."

- Government and Military – 40cm antennas or even smaller will be made available to provide ease of installation and increased mobility. The HCO beams provide flexibility for "unplanned high capacity events" which I think most of us would call "wars."

Other Markets that may also be addressed include:

Enterprise VSAT for large Multi-Nationals
Wireless Backhaul
Aeronautical – although there is no polar coverage.

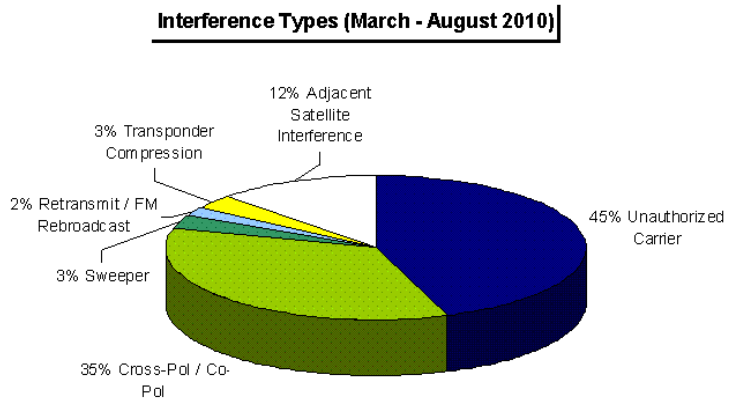
In Paris at World Satellite Business Week, Andrew Sukawaty showed a slide showing a 5 year annual revenue target of $500M per annum. Leo Mondale was more circumspect stating that they didn't know what the market would be like 8 years from now and refused to be drawn what projections had been used internally.

The third theme was heard from a number of the operators, Customers particularly multi-nationals and those in challenging environments want an integrated service. This was summed up most aptly by Peter Shaper CEO of CapRock Communications who talked about his customers wanting "One throat to choke!"

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

Satellite Interference

There are an estimated 3,000 satellite interference events per month. According to a survey done by satellite operator Intelsat, an estimated 45 percent of satellite interference incidents during a six-month period from March-August 2010 was caused by unauthorized carriers. Among the leading causes of unauthorized carrier interference were problems from improperly installed or malfunctioning VSAT and SNG equipment.



Source: Intelsat

The Satellite Markets 25 Index™

Company Name	Symbol	Price (Oct 01)	% Change from 2-Weeks Ago	52-wk Range	% change from 52-wk High
Satellite Operators					
Asia Satellite	1135.HK	14.00	4.48%	9.80 - 14.10	0.71%
Eutelsat Communications	ETL.PA	27.60	-5.67%	20.63 - 29.70	7.07%
Hughes Communications Inc.	HUGH	27.29	7.36%	21.19 - 31.44	13.20%
Inmarsat	ISAT.L	668.50	-7.02%	528.50 - 831.00	19.55%
SES Global FDR	SES.F	17.70	-2.32%	14.15 - 19.01	6.87%
Satellite and Component Manufacturers					
Boeing Company (The)	BA	66.83	6.81%	47.18 - 76.00	12.07%
COM DEV International	CDV.TO	2.20	13.99%	1.61 - 4.15	46.99%
Lockheed Martin Corporation Com	LMT	69.61	1.47%	67.39 - 87.18	20.15%
Loral Space and Communications	LORL	52.43	1.20%	24.74 - 56.85	7.77%
Orbital Sciences Corporation Co	ORB	15.07	10.89%	12.38 - 19.63	23.23%
Ground Equipment Manufacturers					
C-COM Satellite Systems Inc.	CMI.V	0.30	7.14%	0.27 - 0.36	16.67%
Comtech Telecommunications Corp.	CMTL	27.50	9.78%	20.19 - 38.39	28.37%
CPI International, Inc.	CPII	14.12	-0.28%	9.27 - 16.20	12.84%
EMS Technologies, Inc.	ELMG	18.89	15.68%	12.00 - 20.43	7.54%
ViaSat, Inc.	VSAT	41.59	10.06%	26.04 - 41.81	0.53%
Satellite Service Providers					
Gilat Satellite Networks Ltd.	GILT	5.72	-4.67%	3.95 - 6.25	8.48%
Globecomm Systems Inc.	GCOM	8.44	9.18%	6.36 - 8.99	6.12%
International Datacasting	IDC.TO	0.2950	7.27%	0.22 - 0.34	13.24%
ORBCOMM Inc.	ORBC	2.39	14.35%	1.64 - 3.23	26.01%
RRSat Global Communications Net	RRST	8.36	5.82%	7.02 - 12.50	33.12%
Consumer Satellite Services					
British Sky Ads	BSYBY.PK	44.56	0.59%	30.54 - 45.87	14.05%
DIRECTV	DTV	41.83	1.90%	25.16 - 42.61	1.83%
DISH Network Corporation	DISH	19.33	3.81%	17.06 - 24.16	19.99%
Globalstar, Inc.	GSAT	1.70	5.59%	0.61 - 2.11	19.43%
Sirius XM Radio Inc.	SIRI	1.24	11.72%	0.51 - 1.25	0.80%

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 Market Index is January 2, 2008--the first day of operation for Satellite Market and Research. The Index equals 1,000. The Satellite Market Index™ pro-

INDEX	Index Value (Sept. 16)	% Change 2 Weeks Ago	% Change Jan. 2010	% Change Jan. 2008
Satellite Markets 25 Index™	1197.49	-2.48%	+17.07%	+13.90%
S & P 500	1146.24	+2.18%	- 2.65%	-20.51%