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Telecommunications Market

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NOTE FROM THE EDITOR

The Telecom Market



The traditional show kicking off the year for the satellite industry is the Pacific Telecommunications Council Conference and Expo (PTC) in Honolulu, Hawaii. Those fortunate enough to be sent to sunny Hawaii in January know that the PTC looks into the Asia-Pacific telecommunications market and invariably the question always arises whether trends and developments in the US and Europe have a spillover effect on the Asian market or

vice-versa. It's really a chicken and the egg kind of question.

For one segment of the telecom market, the consumer cellular market, one thing is certain the US has lagged behind in terms of technical developments and with is Asian and European counterparts. Now with mobile TV and quadruple play services poised to explode in the cellular market, the US cannot afford not to look into the experiences in other regions, particularly Asia-- the largest market in the world. That's why for this special issue on the evolving telecommunications market for satellite services, we look into trends and developments in the diverse Asian market. Our Asia-Pacific editor based in Manila, who has been covering the Asian telecom market for over 15 years writes the cover story for this issue.

There is certainly a lot we can learn.

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Article Contributions to SatMagazine

Satmagazine accepts article contributions from the industry. We encourage contributions that deal with issues affecting the industry as opposed to company or product-specific articles. We are specifically interested in case studies, opinion (op-ed) pieces, features or market studies and trends. To submit proposals for possible articles , send a one-paragraph or less abstract of the proposed article or to obtain more information on our editorial calendar, publishing guidelines and deadlines, please send an email to <u>virgil@satnews.com</u>

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Abertis Telecom Agrees to Buy a 32% Stake in Eutelsat

PARIS — Abertis Telecom, a subsidiary of Abertis Infraestructuras SA based in Spain, has agreed to acquire through a tender offer a 32 percent minority interest in Eutelsat Communications SA for EUR1.1 billion (US\$1.5 billion) in cash, the European press has reported.

Reports say Abertis Telecom plans to finance the acquisition with a syndicate bridge loan. Abertis is said to have reached an agreement through its subsidiary Abertis Telecom with investment funds Texas Pacific Group, Spectrum, Chiven and Goldman Sachs to make the purchase. The deal is subject to approval by anti-trust authorities.

Eutelsat Communications, the holding company of Eutelsat S.A., has capacity on 23 satellites that provide coverage over the entire European continent, as well as the Middle East, Africa, India and significant parts of Asia and the Americas. Eutelsat is one of the world's three leading satellite operators in terms of revenues.

As of June 30, 2006 Eutelsat's satellites were broadcasting over 2,100 television channels and 970 radio stations, of which over 900 channels were broadcasting via its Hot Bird video neighborhood which serves more than 110 million cable and satellite homes in Europe, the Middle East and North Africa. The Group's satellites also serve a wide range of fixed and mobile telecommunications services, TV contribution markets, corporate networks, and broadband markets for Internet Service Providers and for transport, maritime and in-flight markets.

The acquisition is expected to increase Abertis Telecom's geographic market presence by expanding international business operations.

Eutelsat confirmed the purchase saying it acknowledges the transactions announced by Abertis Telecom to acquire 32 percent of its share capital, and by the investment bank Lehman Brothers International (Europe) to acquire approximately 2 percent of its share capital from certain shareholders at a price of 15.50 EUR per share.

Alcatel Alenia Wins Euro 661-M Contract With Globalstar to Build Their Second-Generation LEO Satellite Constellation

PARIS — Alcatel Alenia Space has won a Euro 661 million (\$880.42 million) contract with Globalstar, Inc. to provide their second-generation satellite constellation.

Under the contract, Alcatel Alenia, as prime contractor, will design, manufacture and deliver 48 low-earth-orbit (LEO) Globalstar satellites as well as launch support services prior to and during the launches and mission operations support.

Jay Monroe, chairman and CEO of Globalstar, Inc. and Pascale Sourisse, president and CEO of Alcatel Alenia, formally signed the contract agreement in New York, N.Y. The definitive contract occurs a few weeks after the preliminary contract (Authorization To Proceed) signature aimed at defining the program readiness review and developing program milestones.

Sourisse said they are grateful for the confidence demonstrated through the contract and are looking forward to a beneficial relationship over the next several years with Globalstar.

With a launch mass of approximately 700 kg and an end-of-life power of 1.7 kW, Globalstar satellites will be fitted with 32 transponders in C-band, S-band and L-band. Starting in 2009, Globalstar satellites will be launched by 6 to 8 at the same time and will have a lifetime of 15 years.

The agreement will involve Alcatel Alenia Space's production sites in France, Italy, Spain and Belgium. Globalstar's secondgeneration satellites will be assembled and integrated in Alcatel Alenia facility in Roma (Italy). The payloads will be provided by the company's facility in Toulouse (France); the structures as well as the thermal subsystems being provided by its facility in Cannes (France).

Alcatel Alenia participated in the design of the complete first generation system and was responsible for the supply of satellites payloads, structures, thermal subsystems as well as the complete satellite integration. The company was also responsible for manufacturing and installing the Globalstar ground station antenna terminals.

AMC-18, WildBlue-1 Satellites Successfully Launched

KOUROU, French Guiana — On Dec. 8, Arianespace placed two satellites into geostationary transfer orbit for two private American operators: WildBlue-1 for WildBlue Communications and AMC-18 for SES Americom.

The two satellites were successfully launched onboard an Arianespace Ariane 5 ECA launch vehicle from the French Guiana Spaceport in Kourou at 7:08 p.m. Friday, local time (5:08 p.m. Eastern U.S.; 11:08 p.m. CET).

The WildBlue-1 satellite was deployed first, released by the launcher approximately 27 minutes into the flight. This was followed about five minutes later by the separation of AMC-18. Within minutes, AMC-18 sent an initial signal which was



Another successful launch for Ariane 5, the only commercial launcher in service capable of simultaneously launching two payloads. Over the last 12 months, Arianespace has orbited 12 communications satellites, plus an experimental payload. (Arianespace photo)

received at Lockheed Martin's Uralla, Australia

facility. (6:08 p.m. Eastern U.S.; 00:08 a.m. CET on December 9th).





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Arianespace said the latest Ariane 5 launch was its 16th success in a row.

Colorado-based WildBlue Communications started its Internet service offering by using capacity on Telesat's Anik F2 satellite, launched by an Ariane 5 in July 2004. With the WildBlue-1 satellite, the company will be able to expand its broadband service offering to consumers and small businesses located in zones where ground-based services do not exist.

AMC-18 is the 25th SES Global satellite to use an Ariane launcher. SES Global is the leading private satellite operator in the world. The AMC-18 satellite will be operated by SES Americom, the largest supplier of satellite services in the United States, which operates a fleet of 18 satellites, and primarily serves the Americas. As part of the SES Global family, SES Americom can provide end-to-end telecommunications solutions anywhere in the world.

WildBlue-1 is one of the first satellites to be totally dedicated to broadband Internet services. Built by Space Systems/Loral in Palo Alto, California, WildBlue-1 weighed 4,735 kg at launch. Offering 35 spotbeams, it will enable operator WildBlue Communications to provide broadband Internet access for the contiguous United States - even in the most isolated regions of the country. It will be positioned at 111.1° West.

Loral, Canadian Pension Fund Acquires Telesat

NEW YORK and MONTREAL — Loral Space & Communications Inc. has partnered with a Canadian pension fund, the Public Sector Pension Investment Board, to acquire 100 percent of the stocks of Telesat Canada for approximately \$2.8 billion (CAD 3.25 billion), plus the assumption of \$148 million (CAD 172 million) of debt from BCE Inc.

Under the agreement, Loral will transfer the fixed satellite services and network services assets of Loral Skynet to a new Canadian company, to be known as Telesat, based in Ottawa formed by Loral and PSP Investments.

As part of the transaction, Loral will contribute to the new company the fixed satellite services and network services assets of its Loral Skynet subsidiary. This gives the enlarged Telesat a global footprint and will make it the fourth-largest satellite operator in the world based on the number of satellites in orbit.

Loral said the new company will have a combined fleet of eleven

satellites and four additional satellites to be launched over the next three years. The new company will have combined trailing 12 months revenue for the period ended September 30, 2006 of approximately \$568 million (CAD 658 million) and \$4.9 billion (CAD 5.6 billion) of backlog, generating combined trailing 12 months Adjusted EBITDA for the period ended September 30, 2006 of approximately \$295 million (CAD 341 million).

The new company will feature a management team to be drawn from both Telesat and Loral Skynet and Daniel Goldberg will continue to serve as chief executive officer. Loral and PSP Investments will hold a 64 percent and 36 percent economic interest, respectively, in the new company. Consistent with Canadian law, Loral's total voting equity will be 33.3 percent, with PSP Investments and other Canadian investors having 66.7 percent.

In a statement, Loral and Telesat said the combined Telesat-Loral Skynet company will offer its customers expanded satellite and terrestrial coverage, enhanced back-up advantages and an unparalleled level of customer service.

Loral's satellite fleet provides an array of video and data services primarily outside of North America, and complements Telesat's North American fleet, which hosts strong video and data distribution services across North America, as well as Canada's two premier direct-to-home video services.

Based on the exchange rates used by Loral and PSP Investments in submitting their final proposal, Loral would be contributing \$238 million (CAD 271 million) while PSP Investments would contribute \$523 million (CAD 596 million), for a total of US \$761 million (CAD 867 million).

Boeing Delta II to Launch Pair of Alcatel Alenia COSMO-SkyMed Satellites

ST. LOUIS — Alcatel Alenia Space Italia, the prime contractor of the Italian Space Agency, has awarded Boeing Company a contract to launch two commercial satellites in 2007.

Two Delta II expendable launch vehicles, both in the 7420-10 configuration, will each carry into orbit a COSMO-SkyMed spacecraft from Vandenberg Air Force Base, Calif.

"Boeing Launch Services is honored to support these missions for Alcatel Alenia Space, the European leader in satellite-based solutions," said Boeing Launch Services director Ken Heinly.

"The COSMO/SkyMed system is a critical mission for Italian science, commerce and security, and the Delta II was selected for its reliability, timeliness and affordability."

The Delta 7420-10 configuration is approximately 126 feet tall and eight feet wide. It features a first stage and four strap-on solid propellant rocket motors, an interstage and a second stage. The first stage RS-27A main engine is manufactured by Pratt & Whitney Rocketdyne, Canoga Park, Calif. The solid strap-on motors are provided by Alliant Techsystems, Minneapolis, Minn. The main engine and the four solid rocket motors deliver a total thrust of 485,000 pounds at liftoff.

COSMO-SkyMed is an end-to-end Earth observation dual-use (civil and military) system composed of four satellites and ground stations. The system will take radar imagery of the Earth using an X-Band Synthetic Aperture Radar instrument at the request of institutional (including defense, civil and scientific) and commercial users.

Boeing Launch Services will procure the launch vehicles and related support from United Launch Alliance, the Boeing-Lockheed Martin joint venture that began operation on Dec. 1.

ILS Proton Successfully Launches Measat-3 Satellite

BAIKONUR COSMODROME, Kazakhstan — A Proton Breeze M launch vehicle successfully placed the Measat-3 satellite into orbit on Dec, 12, for the final mission of the year for International Launch Services (ILS). The launcher lifted off at 5:28 a.m. Tuesday local time (6:28 p.m. Monday EST, 23:28 Monday GMT).

The mission lasted 9 hours and 12 minutes before Measat -3 was released into a geosynchronous transfer orbit. This was the fourth Proton launch of the year for ILS.

The satellite is a 601HP model built for Measat Satellite Systems Sdn Bhd by Boeing Satellite Systems International Inc. On Tuesday, Boeing [NYSE: BA] and Measat announced that Boeing has acquired the first signal from the satellite following its successful launch on Dec. 11. The satellite now will maneuver itself to a geostationary orbit approximately

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INDUSTRY NEWS



A Russian Proton launch vehicle lifts off Dec. 12 from the Baikonur Cosmodrome, carrying the Measat-3 satellite for Malaysia. (ILS photo) 22,300 miles above Earth where a series of spacecraft deployments and tests will verify that it is ready to begin service.

From its final orbital position of 91.5 degrees East longitude, Measat-3 will serve customers in more than 100 countries at C-band and in Malaysia, Indonesia and South Asian with DTH-quality Kuband coverage. This was Measat's first launch on an ILS Proton vehicle, as well as the 10th 601 model spacecraft launched on Proton.

The Proton vehicle, built by ILS partner Khrunichev State Research and Production Space Center of Russia, has carried out 323 missions for the Russian government and commercial customers over more than 40 years.

Boeing Demonstrates Interoperability between TSAT and BAE Systems' Airborne Lasercom Risk Reduction Terminal

ST. LOUIS — Boeing recently demonstrated communication capabilities between its Transformational Satellite Communications (TSAT) laser communications terminal and BAE Systems' Airborne Lasercom Risk Reduction Terminal (ALT), which included a telescope, optical bench assembly, and closed-loop pointing and tracking hardware.

The demonstration, Boeing said, presented to MILSATCOM Systems Wing officials and members of the TSAT user community, used several optical waveforms to route TSAT communication signals through the ALT Risk Reduction Terminal at data rates of up to 10 gigabytes per second. On command, the TSAT terminal dropped its link to the ALT risk reduction terminal and acquired and established communications with a second emulated TSAT terminal. Testers then reversed the process to illustrate the system's agility. The successful demonstration brings us one step closer to realizing TSAT's ability to serve the airborne community on unmanned systems. Boeing recently demonstrated communication capabilities between its Transformational Satellite Communications (TSAT) laser communications terminal and BAE Systems' Airborne Lasercom Risk Reduction Terminal (ALT). TSAT, above, is a highly sophisticated communication



satellite scheduled to begin U.S. military service by 2014. (Boeing photo)

"This demonstration was an important event for the TSAT and ALT risk reduction programs," said John Peterson, Boeing TSAT program director. "We showed that terminals made by Boeing along with our partner Ball Aerospace and terminals built by BAE Systems and Ball could work together to provide risk reduction for the government's Lasercom mission needs."

TSAT is a highly sophisticated communication satellite scheduled to begin U.S. military service by 2014. It is designed to provide conventional communications services and laser communication capabilities to all branches of the military, including space and airborne platforms. The data capacity afforded by the Lasercom service will be extraordinary starting at 2.5 gigabytes per second, nearly the equivalent of 150 simultaneous high definition television channels. TSAT will open up new airborne mission possibilities in the areas of command and control, surveillance and reconnaissance.

U.S. Air Force Minotaur 1 Rocket Launches TacSat- 2 Satellite

WALLOPS ISLAND, Va. — The NASA Wallops Flight Facility demonstrated its quick response capabilities with the success-ful launch last Dec. 16, of a U.S. Air Force Minotaur 1 rocket from the east coast of Virginia.

The rocket was launched at 7:00 a.m. (EST) carrying the Air Force Research Laboratory's TacSat-2 satellite and NASA's GeneSat-1 microsatellite after the liftoff was delayed for almost a week because of a software problem on TacSat-2.

The satellites were launched on the four-stage Minotaur I launch vehicle contracted by the Space and Missile Systems Center through Orbital Sciences Corp.'s Launch Systems Group. The mission was conducted from the Mid-Atlantic Regional Spaceport's launch pad on Wallops Island. **SM**

Northrop Grumman Appoints New Vice Presidents in its Space Technology Sector





Steve Hixson

Frei

hy J. Brian Chappel

REDONDO BEACH, Calif. — Northrop Grumman Corp. has appointed three new vice presidents at the company's Space Technology sector to lead the Advanced Concepts organization; the Intelligence, Surveillance and Reconnaissance (ISR) Business Development organization; and the Contracts, Pricing and Programs Business Management organization.

Those appointed are: Steve Hixson - vice president of Advanced Concepts; Timothy J. Frei - vice president of ISR Business Development; and Brian Chappel - vice president of Contracts, Pricing and Programs Business Management

Steve Hixson will lead the newly created Advanced Concepts organization, established to identify, define and mature concepts for new mission areas and develop responsive and rapid prototype solutions. Advanced Concepts is a strategic response to the growing need for a quick turnaround capability for lower-cost demonstration programs.

Hixson earned a bachelor's degree in optics from the University of Rochester, a master's degree in electrical engineering from the University of Southern California, and a master's degree in business administration from the Anderson School of Management at the University of California, Los Angeles.

Timothy J. Frei, as vice president of ISR Business Development, will lead the formulation and execution of Space Technology's ISR market area strategy and head new business pursuits. In addition, Frei will oversee the architecture, design and development of advanced systems through both government and internally funded studies, and he will determine the appropriate technology investment strategy for future ISR needs.

He earned a bachelor's degree in aerospace engineering and a master's degree in mechanical engineering from UCLA. Frei has

completed the UCLA Executive Program at the Anderson School of Business.

Brian Chappel likewise brings a broad set of skills to his new role as vice president of Contracts, Pricing and Programs Business Management. He has more than 20 years of combined government and industry experience in a diverse set of business, strategy, management and technical disciplines.

Most recently, Chappel was a key member of the National Polarorbiting Operational Environmental Satellite System leadership team where he has acted in several roles including capture manager, supply chain manager, systems integration manager and systems engineering manager. Previous leadership positions include director of Business Development for TRW Ventures as well as senior-level new business capture, program management and systems engineering roles on major programs.

Prior to moving into technical management, Chappel spent five years working in the business management community as the division pricing manager for the sector's Defense Systems Division.

SkyTerra Names Alex Good CEO and President, Scott Macleod CFO

RESTON, Va. — SkyTerra Communications, Inc. has named Alexander H. Good as chief executive officer and president, while Scott G. Macleod was named executive vice president, chief financial officer and treasurer.

SkyTerra said Good will continue to serve in his current role as vice chairman and CEO of Mobile Satellite Ventures LP (MSV), the principal operating subsidiary of SkyTerra. Macleod will also continue to serve in his current role as chief financial officer of MSV.

Good is replacing Jeffrey Leddy, who has served as CEO and president of SkyTerra since April 2003 and was concurrently added to the board of directors of SkyTerra. Leddy also will retain his position on the MSV Board. SkyTerra said Craig Kaufman who has served as SkyTerra's controller and treasurer since April 2003, has ceased his employment with the company.

Good has a long history in the telecommunications field as an operating executive and on the Boards of telecom businesses. Good was the executive vice president of Bell Atlantic (now Verizon) and served as a member of that company's executive committee.

Prior to that, Good served as CEO and president of Bell Atlantic International, where he led the company's high growth internaSES Americom, said Osterthaler will engineer the communications networks that underpin the success of American armed

International, where h tional operations. He also initiated and oversaw the company's investments in other areas, including the satellite industry. Prior to his service with Bell Atlantic, he served as CEO and chairman of the board of Mtel International.

General Osterthaler to Lead Americom Government Services

WASHINGTON & PRINCETON, N.J.

- SES Americom has appointed retired **Brigadier General** Robert Tipton (Tip) Osterthaler as president and CEO of Americom Government Services (AGS), a wholly owned subsidiary of SES Americom. Most recently Osterthaler served as senior vice president of Science Applications International Corporation (SAIC) where he was deputy general manager for the Strategies, Simulation and Training Business Unit. Edward D. Horowitz, president and CEO of



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forces operating throughout the world, and to deliver the bandwidth that connects government agencies with vital information resources domestically and beyond.

Osterthaler's record at SAIC spanned 1998 to 2006 with two important assignments, the first being senior vice president and operation manager within the Strategies Business Unit, followed by the more recent assignment as senior vice president and deputy general manager of the Strategies, Simulation and Training Business Unit. In both assignments, Tip oversaw the P&L, managed and grew large international programs and clients, and developed teams and strategic partnerships.

Prior to joining SAIC, Tip served in the U.S. Air Force for 27 years, retiring as Brigadier General and deputy assistant secretary of Defense for European and NATO Policy. He holds a BS in Economics from the U.S. Air Force Academy and an MBA from Texas A&M University.

Satmex Appoints New Chief Executive Officer

MEXICO CITY — Satelites Mexicanos, S.A. de C.V., Mexico's leading satellite service provider, has appointed Raul Cisneros Matusita to serve as the new CEO of Satmex, effective November 30, 2006, to help chart a new direction for the company. Cisneros's appointment was made on the same day the company officially concluded its U.S. bankruptcy case.

Cisneros brings to Satmex over 22 years of experience, specializing in turnaround strategies, asset sales and restructurings. Most recently, he has been an operative partner of Advent International Corp., supervising investments in mortgage lending institutions, leasing operations and turnaround of distressed assets.

He was also deputy director general of Compania Mexicana de Aviacion through January of 2006, entrusted with the successful sale of Mexico's leading airline to Grupo Posadas, and for three years, director of Asset Administration and Financial Planning. For five years, he was the CEO of Consultoria Internacional, a leading foreign exchange trader and from 1996 to 1999, he was appointed by Banco de Mexico to turnaround or sell troubled corporations.

Cisneros succeeds Sergio Miguel Angel Autrey Maza, who was designated by Satmex's Board as interim CEO in February 2005. Autrey will continue serving as a member of reorganized Satmex's board of directors.

Raytheon Names Darlington to Lead Raytheon Technical Services Company Engineering and Technology



RESTON, Va. — Fred Darlington has been named vice president of Engineering and Technology for Raytheon Company's Raytheon Technical Services Company LLC (RTSC).

Darlington will lead the planning and execution of RTSC's Engineering and Technology organization. He will be responsible for strengthening RTSC engineering capability, defining and

Fred Darlington

supporting RTSC's current and future technology needs and working collaboratively across the Raytheon enterprise to leverage the company's diverse technology and engineering talent.

Darlington will report to Raytheon vice president and RTSC president Bryan J. Even and will be located at RTSC headquarters in Reston, Va. He will also report to Taylor W. Lawrence, Raytheon vice president of Engineering, Technology and Mission Assurance, as a member of the enterprise-wide Raytheon Engineering and Technology Council.

With more than 25 years of experience with Raytheon, Darlington joins RTSC from Raytheon's Network Centric Systems (NCS). He previously served as director of the satellite communications product line in Marlboro, Mass., and director of engineering for the NCS northeast region, including Canada.

RTSC, a subsidiary of Raytheon Company, provides technology solutions for defense, federal and commercial customers worldwide. It specializes in Mission Support, counter-proliferation and counter-terrorism, base and range operations and customized engineering and manufacturing.

Intelsat General Corp. Appoints Thomas Foust as its New VP of Sales

BETHESDA, Md. — Intelsat General Corp. has named Thomas L. Foust as its new vice president of sales. Foust will be responsible for Intelsat General's sales to government organizations, including the Department of Defense, NATO, and civilian and intelligence agencies. He will report directly to Kay Sears, senior vice president of sales, marketing, and business development.

Sears said Foust's military and commercial background, coupled with his business management skills, complement the company mission of providing government customers with innovative solutions to meet their satellite and networking challenges.

Foust has spent more than three decades in the telecommunications industry – both in the military and the private sector. His service in the U. S. Air Force included positions as operations supervisor, program manager, and quality control supervisor at Rhein-Main Air Base in Germany. He also served as contracts manager for the Defense Information Technology Contracting Organization at Scott Air Force Base in Illinois.

Foust has an Associate's Degree in Electronic Systems Technology and a Bachelor of Science in Management Information Systems. He currently is pursuing a Master of Arts Degree at Liberty University.

American Express Senior Executive Joan Amble Joins XM Board of Directors

WASHINGTON — Joan Lordi Amble, the executive vice president and corporate comptroller for American Express Company, has joined the board of directors of XM Satellite Radio.

Gary Parsons, chairman of XM, said Amble's experience at American Express, GE, Ernst & Young, and the Financial Accounting Standards Board (FASB) and considerable financial expertise will be useful to the board.

As a senior executive at American Express, Amble is responsible for all controllership finance functions across the four major divisions of the company. Her accountabilities include over-



sight of all aspects of the company's global reporting, control, technical advisory and financial shared service center functions.

Prior to joining American Express, Amble served as chief operating officer and chief financial officer of GE Capital Markets, a service business within GE Capital Services, Inc., overseeing securitizations, debt placements and syndication.

Amble, a CPA, obtained her undergraduate degree in Accounting from Pennsylvania State University, and attended graduate school at University California, Los Angeles (UCLA).

Former TSA Chief David Stone Joins SkyPort Int'l Board

HOUSTON — David Stone, former Assistant Secretary of Homeland Security for the Transportation Security Administration (TSA), has been named to the board of directors of SkyPort International Inc., a providers of satellite and terrestrial communications services.

Stone, a retired Rear Admiral in the U.S. Navy, will assist SkyPort in playing an even larger role in providing disaster communications capability to firstresponders and to the military.

Admiral Stone said he wants to help the United States at the federal, state and local levels, improve its disaster response communications capabilities. "SkyPort's performance in support of Katrina related operations were excellent. I am eager to assist my fellow board members in building on that success so that our nation has the kind of communications capability we need to respond quickly and effectively during future disaster response events."

Stone, a 1974 graduate of the U.S. Naval

Academy, retired from the Navy in 2002 and shortly thereafter became the first Federal Security Director at Los Angeles International Airport for the Department of Homeland Security. President Bush nominated him as assistant secretary for the Department of Homeland Security in charge of the entire TSA in 2004. He held the top leadership position at TSA for 18 months before leaving to form and serve as president of The Alacrity Homeland Group, a Washington, D.C., based firm. **SM**

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NEW PRODUCTS

US Navy Acquires AutoExplorer Terminals



In the last quarter of 2006, Globecomm announced that it had signed a deal with the

Naval Air Warfare Center Aircraft Division for 50 of the company's AutoExplorer satellite terminals, to be delivered by mid-2007. The Navy award added to a string of military, government and commercial awards for the self-aligning portable satellite terminals, which are available in .77, 1.0 and 1.2-meter configurations.

AutoExplorer terminals include integrated electronics (L through Ku-band and all intermediate frequencies) and are IPenabled to accept optional routers and satellite IP-optimized solutions. Suited for tactical support of military and peacekeeping forces as well as enterprise network and Internet access, the terminals provide cost-effective, two-way communications at rates of up to 2 Mbps. The antenna can be set up in less than 15 minutes and the auto-align system automatically locates, peaks-up and drives to theoretical cross-polarization position with base tilt correction. More information on AutoExplorer is available at www.globecommsystems.com.

Alcatel Demos Europe's First Live Mobile TV in S-band

PARIS — Alcatel has announced the successful demonstration of Europe's first broadcast of live TV channels on mobile handsets in S-band.

Alcatel said the demonstration took place in Alcatel's UK premises and it used the new DVB-SH standard (Satellite services for Handhelds), which is currently being drafted by the DVB Project. Alcatel was assisted by UK broadcasters Sky, ITV and BBC in the demonstration.

Alcatel said representatives from European mobile operators, TV broadcasters, industry analyst firms and regulatory bodies attending the demonstration were able to enjoy high quality images displayed on SAGEM myMobileTV handsets. These terminals used the S-band telecom frequency between 2.17GHz and 2.20GHz, which is adjacent to the 3G/UMTS band. 30MHz of spectrum is currently available all across Europe and in other major regions in the world.

DVB-SH is a new technology targeting the S-band. DVB-SH is a

related standard to DVB-H. With DVB-SH technology, Mobile TV signals can be broadcast from satellites as well as from terrestrial transmitters directly to handhelds. DVB-SH handhelds can be designed in such a way that they become compatible with DVB-H so that both standards can be received in one end-user terminal.

Alcatel also demonstrated two possible key technical features using the DVB-SH standard. Reception Antenna Diversity, a feature using two antennas inside the same mobile device, enables improvements in the signal quality under difficult conditions. Another feature called Time Interleaving overcomes fading impairment in mobility conditions. The significant quality enhancement was demonstrated by implementing these DVB-SH features according to Alcatel.

Telenor Satellite Extends High-Speed on Demand Maritime Service Globally

OSLO, Norway & ROCKVILLE, Md. — Telenor Satellite Services, a subsidiary of Telenor of Norway, has announced that it now offers high-speed 128 kbps maritime satellite communications service globally.

Telenor said it has added Pacific Ocean coverage to its existing Fleet F77 128 kbps service in the Atlantic and Indian Ocean regions. The service is terminated at the company's Pacific Ocean teleport in Santa Paula, California.

The Fleet F77 128 kbps service operates over the Inmarsat satellite system and uses Fleet F77 hardware while virtually doubling the data speed normally available associated with the service. The Fleet service and hardware, commercially available since 2002, is currently used by many large vessels such as merchant ships, oil and energy transport ships, cruise liners and ferries, and super yachts.

Telenor said the enhanced global service uses a dedicated 128 kbps channel and arms ship owners and ship captains with a powerful communications solution designed to meet the varied communications and data requirements of the maritime industry. The extended service provides users at sea with a single, integrated satellite terminal that delivers mobile 128 kbps ISDN data and mobile packet data service, as well as high-quality telephony and fax services. The service also meets requirements of the Global Maritime Distress and Safety System (GMDSS)

NEW PRODUCTS

enabling pre-emption and prioritization of voice calls over low priority voice and data traffic, according to the company.

Spacenet Launches New StarBand Nova Pro Service

MCLEAN, Va. — Spacenet has unveiled its new StarBand Nova Pro satellite broadband Internet service for residential customers.

Spacenet said the Nova Pro service, along with the Nova Ultimate service that was launched in September, are part of StarBand's completely revamped product line aimed at small office and home users looking for a more reliable, professionalgrade broadband satellite Internet connection at an affordable price.

The Nova services utilize the advanced Gilat SkyEdge VSAT platform for improved speed and user experience. The Nova Pro service offers speeds of up to 512 kbps download and 128 kbps upload, while the Nova Ultimate provides speeds of up to 1 Mbps download and 256 kbps upload.

Spacenet vice president of Channel and Consumer Sales Steven D'Argenio said the Nova Ultimate service has generated a lot of demand, and we know that there is already a high demand for the new Nova Pro service.

"The Nova services offer an exceptional value by delivering professional quality satellite broadband performance in a very affordable package, and we are excited to satisfy our customers' high-speed Internet requirements with our new offerings," he said.

WorldSpace Satellite Launches India's First 24-Hour Gujarati Channel

SILVER SPRING, Md. — WorldSpace Satellite Radio has introduced 'Radio Umang', the first ever 24-hour Gujarati radio channel for subscribers in South Asia including the company's primary market of India.

'Radio Umang' (channel 111) presents a unique platform, ranging from the pulsating tunes of the Garba and Dandia Raas to the melodious Sugam Sangeet and Ghazals, that showcases the rich diversity of musical traditions of Gujarat. There are over 50 million people in India alone who speak Gujarati. William Sabatini, vice president, global programming for WorldSpace, said this most recent addition to the lineup demonstrates the company's commitment to differentiate itself from the offerings of traditional radio in India and around the world.

'Radio Umang' joins a growing portfolio of Indian regional language channels available on the WorldSpace. WorldSpace currently offers eight other regional channels with dedicated programming in Tamil (KL Radio), Malayalam (RM Radio), Telugu (Spandana), Kannada (Sparsha), Bengali (Tara), Punjabi (Tunak Punjabi) Urdu (Falak) and Marathi (Surabhi).

These WorldSpace channels also reach Indian listeners living within the AsiaStar satellite coverage area, including in the Middle East where there is a large Indian population.



government, military, broadcasting, and emergency/disaster

NEW PRODUCTS

IPSTAR Launches the "iMOVE" Mobile Broadband Solution

NONTHABURI,

Thailand⁻Shin Satellite Public Company, the operator of the IPSTAR satellite system, has partnered with RaySat Antenna System LLC, a provider of satellite antenna technology for 2-way mobile applications in the market, to offer mobile broadband solution for moving vehicles using the Thaicom-4 (IPSTAR) satellite.

The IPSTAR "iMOVE" product consists of RaySat's advanced low profile (5.9") array antenna that can be fitted to any vehicle (such as in SUVs, vans, buses, trains, and vessels). The antenna is able to track the Thaicom-4 satellite at all times while the vehicle is moving providing true mobile broadband services.

ShinSat said IPSTAR iMOVE offers the fastest mobile satellite bandwidth solution in the market today. It added the service is ideal for high performance and cost-effective mobile video, voice, and data applications and suitable for the enterprise,

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NEW PRODUCTS

Both companies have successfully tested the IPSTAR iMOVE in Thailand and said they will jointly market the product throughout the 14 countries in the Asia-Pacific Region where Thaicom-4 provides services.

Patompob Suwansiri, head of marketing at ShinSat, said with the powerful combination of Raysat's advanced mobile antenna product and the high performance and unique characteristics of the IPSTAR satellite, they are able to offer our customers the best performing broadband satellite solution for moving vehicles in the market today.

Promax LaunchesNew Portable Analyzer for Digital Broadcast, Cable and Satellite



BARCELONA, Spain — Promax Electronics recently introduced a new portable analyzer, the Prodig-5B US TV Explorer, that for the first time can measure terrestrial, cable and satellite DTV signals in America. This new unit, Promax said, allows the company to bring a unique solution to the

market that combines existing spectrum analyzer capabilities together with advanced DTV measurements and signal demodulation.

Designed to meet the needs of professional installers, broadcasters, cable networks and satellite operators, the US TV Explorer is compatible with 8VSB, QAM and QPSK (DVB-S and DSS) as well as analog NTSC signals. Moreover, it contains an MPEG-2 and AC3 demodulator that makes it possible to display transport stream information and watch digital channels.

The US TV Explorer provides quick and reliable testing capabilities for installation, troubleshooting and maintenance of digital and analog TV signals. It allows users to perform detailed spectrum analysis, display all measurements in one screen and watch TV picture. In addition, the AUTO-ID feature searches for channels, detects digital transmission parameters automatically and reads network identification data from the MPEG-2 transport stream.

Arabsat and Nilesat Sign Partnership Agreement to Establish "Arabsat Media Gateway"

RIYADH— The Arab Satellite Communications Organization (Arabsat) and the Egyptian Satellite Company (Nilesat) have signed a strategic partnership agreement enabling Arabsat to establish a new "Arabsat Media Gateway (AMG)" from Cairo located in Nilesat's 6th of October City free zone area premises.

Engineer Khalid Ahmed Balkheyour, Arabsat's president and CEO, and Amin Basyouni, Nilesat's chairman, have expressed their satisfaction on the agreement that will benefit millions of Arab viewers, considering it as a critical first step towards a further constructive and mutually beneficial cooperation.

Arabsat said the new Media Gateway will enable the company to provide the Egypt-based Broadcasters with direct access to a comprehensive range of video services such as uplink and turnaround onto Arabsat's 26°East 130 million viewers neighborhood, full digital platform management, as well as extensive content processing such as playout, store and forward, transcoding, etc.

As part of its strategic move towards getting closer to its customers' locations, this 9th AMG from Arabsat will complement the ones already serving the MENA region from Amman-Jordan, Beirut-Lebanon, Bonn-Germany, Dubai-UAE, Madrid-Spain, Riyadh-KSA, Sharjah-UAE and Tunis-Tunisia, the company said.

AEgis Technologies, DigitalGlobe Unveil Advanced Geospatial Modeling and Simulation Solutions

HUNTSVILLE, Ala. and LONGMONT, Colo. — AEgis Technologies Group, provider of expert modeling and simulation services and products, and DigitalGlobe, provider of high resolution commercial satellite imagery, will demonstrate a new collaborative 3-D mapping application at the 2006 Interservice/ Industry Training, Simulation and Education Conference (I/ ITSEC) in Orlando, Fla.

The two companies said the combination of current 60-cm resolution satellite imagery with a highly detailed 3D modeling and terrain database dramatically merges geospatial intelligence with virtual simulation. The I/TSEC demo of this new capability will showcase the Arak nuclear-associated facility in Iran.

COVER STORY The Asian Telecom Market: **A Lot on Their Plate**

By Peter I. Galace

he US cellular industry in previous years trailed its European and Asian counterparts in the race to introduce technologies such as mobile digital TV, an application intended to boost Average Revetnue Per User (ARPU) he face of a nearly saturated cellular market. That gap has been narrowed recently, however, (mobile TV has launched in the USA) with new applications taking root and driven by pent up demand from US consumers for a richer mobile experience. To gauge trends in the telecom sector, it might be instructive to look at developments in Asia and see what lessons can be learned from its experience.

It was a huge step for South Korea but one gigantic leap for Asia's satellite service providers.

South Korea's introduction of the world's first S-DMB (Satellite-Digital Multimedia Broadcasting) TV service for mobile phones in May 2005 was a historic milestone highlighting

the satellite industry's key role in delivering mobile video and high speed IP broadband—the twin drivers of current telecom growth.

S-DMB provides cost-effective multimedia services to mobile users by interworking satellite systems with 3G and 4G terrestrial networks.



It is a hybrid mobile satellite broadcast system where broadcast and multicast services are delivered by a satellite network.

Terrestrial repeaters that extend satellite coverage in urban areas complement this network. Among the hybrid mobile satellite broadcast systems in operation is the XM-radio system in the USA that broadcasts radio programming to vehicular terminals.

For Asia, the launch affirmed its status as a first mover in hot satellite delivered technologies such as mobile video and IPTV (Internet Protocol TV). Earlier, in October 2004, Japan's Mobile Broadcasting Corporation (MBCo) introduced the world's first commercial S-DMB service for motor vehicles with three data, seven video and 30 audio channels.

Both TU Media, the unit of SK Telecom that launched the S-DMB service, and MBCo use Japan's MBSat (called "Hanbyol" in Korean) to deliver their mobile offerings. TU Media is coowned by SK Telecom and Toshiba.

Leveraging satellite power

The advent of mobile TV on digital handheld devices, smartphones or car terminals adds an interesting facet—and a potential huge revenue source—to Asia's satellite services industry still heavily dependent on DTH services for much of its revenues.

In South Korea, TU Media's S-DMB service signed up some 370,000 subscribers by the end of 2005, compared to its target of 420,000. These subscribers, however, paid about \$13 per month for seven video and 20 audio channels and used mobile phones costing some \$750 apiece. TU Media, a consortium of 200 companies, expects to sign up six million subscribers by 2010.

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In contrast, SkyLife, South Korea's sole DTH provider, had over 1.8 million subscribers in the same year who paid less than \$10 monthly for 160 channels.

downlink signal enables smartphones, other digital handheld devices and car terminals to receive the downlink signal. MBSat carries high power S- band transmitters and a 12-meter S-band high gain antenna to deliver high EIRP.

MBSAT currently delivers digital

TU Media's video-on-thego service currently offers news, sports, soap operas, movies and games. And to keep subscribers happy and place a lock on revenues, the company offers a 10% monthly discount for a oneyear mandatory contract; 15% for two-years and 20% for three years. S-DMB revenues are expected to hit \$813 million by 2010, according to TU Media.

While S-DMB's revenue potential is clear, the technology still has to contend with issues relating to content and quality of service. Surveys found initial subscribers concerned about the limited content and overall service quality. Only 24% said they were satisfied with the service while 45% voiced dissatisfaction.

The pricey handsets (Samsung Electronics' SCH-B100 and SK Teletech's IBM-1000) seemed less of a concern to subscribers than the quality of service, however.

But that was then and TU Media has since gone forward with installing the 8,000 repeaters or low power gap fillers for enhanced indoor coverage in urban areas, guaranteeing almost complete terrestrial blanketing of a country with a land area of less than 100,000 km2 and better leveraging the power of MBSat.

This satellite's high EIRP



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multimedia services such as MPEG-4 video and data to mobile users in South Korea and Japan.

IPSTAR goes mobile

Shin Satellite's iPSTAR-1Broadband Internet Satellite, the world's first Internet satellite, this December announced it was joining the mobile race by offering mobile broadband services for moving vehicles, but one different from that provided Japanese customers by MBSat.

ShinSat has a name for its product: iMOVE. ShinSat claims iMOVE allows users to track iPSTAR while their vehicles are moving. This, said ShinSat, should enable users to do video conferencing while on the road and allow the production of live, on-themove satellite news broadcasts instead of having TV crews stop and deploy their antennas.

The system's low-profile array antenna permits automatic connection and has a claimed uplink speed of up to 1.5 Mbps. ShinSat noted its system is cheaper based as it is on monthly subscription fees compared to the standard practice of blocking and leasing airtime for a satellite feed.

ShinSat said iMOVE" is available in Thailand, China, Vietnam Australia and New Zealand and should be available in the rest of Asia-Pacific by 2007.

iPSTAR or Thaicom 4, the largest commercial satellite in space, was launched in August 2005. It carries 94 beams and has a capacity of 45 gigabits per second covering all of Asia Pacific. It is designed for digital high-speed Internet access and can send and data, video and audio simultaneously.

It provides a broad range of

broadband applications and high-speed Internet access such as E-government, corporate Intranet, Virtual Private Networks (VPNs) and VoIP.

Australia is becoming an important market for iPSTAR's broadband services. ShinSat is expected to sign up 2,000 new subscribers a month by the end of 2006, double the rate a few months ago. IPSTAR's market in Australia and New Zealand consists of some one million households and small businesses.

ShinSat's Australian partner said iPSTAR has consistently provided its customers with reliability, security and speed. It is also a ubiquitous and affordable broadband solution that meets the needs of remote customers in Australia and New Zealand.

Excaping market saturation

Philippine Long Distance Telephone Company (PLDT), the Philippines' largest telco and Asia's eighth largest mobile provider, remains keen on both mobile TV an IPTV as a means of breaking into the lucrative broadcast industry and improving ARPU for its industry leading cellular service.

Its intent to acquire an obscure company called GV Broadcasting, which analysts say seems increasingly probable, will give it immediate entry into both business. GV Broadcasting is a licensed DTH satellite television provider that intends to be the country's second DTH provider after Philippine Multimedia Satellite Systems, provider of the Dream DTH service.

It has also applied for a certificate of public convenience to install, operate and maintain a Philippine-wide digital mobile TV system.

In a disclosure statement, PLDT said



it remains interested in developing its content strategy, and is looking at services such as DTH, IPTV and mobile TV. PLDT expects its broadband and business process outsourcing operations to take over from cellular as its main revenue drivers in the years ahead.

Mobile penetration in the Philippines is nearing saturation and was estimated at 43% in late June. PLDT through mobile subsidiary Smart Communications, Inc. owns some 60% of the market. Revenues from its mobile business will continue to grow but at single-digit levels, hence PLDT's focus on DTH, IPTV and mobile digital TV.

Europe and the USA fall behind

A step behind Asia in the deployment of satellite delivered digital multimedia services is Europe where a wide range of trails based on S-DMB and DVB-H standards were recently carried out.

S-DMB is scheduled to make its European debut in 2009 following extensive trials. An initial commercial rollout is set for 2007, with full-scale deployment in 2009.

As in Korea, European 3G users will receive streaming television and video on their handsets at an affordable subscription fee in the range of 10 euros. The service will be available anywhere in Europe.

S-DMB's European launch follows the MAESTRO (Mobile Applications & sErvices based on Satellite & Terrestrial inteRwOrking) trials that sought to use

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the technology to implement a broadcast/multicast layer complementary to existing 3G mobile networks.

MAESTRO's satellite component was designed to reuse current 3G technology, minimize the development of new products and technologies and increase the content delivery capacity of networks.

Results from pilots of broadcast DVB-H mobile TV services among consumers in Finland, the UK, France and Spain revealed clear consumer demand for these services and pointed to future business models for commercial mobile TV services. The DVB-H pilots involved broadcasts of live digital TV content over DVB-H networks to the Nokia 7710 smartphone.

As a result, Alcatel and Eutelsat are expected to launch a geostationary DVB-SH satellite covering Europe in 2008. Alcatel is to deliver DVB-SH terrestrial repeaters beginning 2007. DVB-SH (satellite services to handheld devices) is a hybrid architecture using the S-band that its proponents claim is more powerful than S-DMB.

As shown in South Korea, European consumers want a wide range of channels and content suitable for watching on mobile devices. And as in South Korea, the most popular types of content were news, sports, music and soaps. Europeans, however, wanted to pay less than the South Koreans did for their mobile TV services.

With actual market experience in hand, TU Media intends increase its video channels to 14 and offer more compelling content such as more of the soaps Korea is popular for.

In the USA, 2007 should see the first national rollouts of mobile TV services by Modeo (a subsidiary of

Crown Castle Media) and by partners SES Americom and Aloha Partners. SES Americom provides the infrastructure that supports Aloha Partners' mobile TV network called Hiwire.

Both Modeo and Aloha Partners are deploying DVB-H. Modeo, however, will first trial it's mobile TV offering to a select group of users in New York City in early 2007.

On the other hand, Verizon Wireless has announced its adoption of Qualcomm Inc.'s MediaFlo technology for its mobile TV service that will broadcast data, audio and video streams, and information such as stock market quotes and weather reports.

The different technologies used to deliver mobile TV mirrors the jousting among technologies seen in Asia and Europe with the winner being decided by subscriber revenues. Both services were trailed at selected locations in 2006.

The case for mobile TV in the USA rests on the huge market numbers: there are currently about 200 million cellphone subscribers and a penetration rate of 65% nationwide (higher than cable TV, home Internet access and computers). About seven billion text messages are sent every month in the USA.

S-DMB vs. DVB-H

Despite its first mover advantage, S-DMB will have its hands full against DVB-H, which is being pushed by a consortium led by Nokia. Research firm Informa Telecoms & Media. projects DVB-H to dominate as the international video standard with 121 million users by 2011, or 57% of the world market.

DVB-H is also receiving traction in Asia because of DAPA, the DVB-H Asia Pacific Alliance. DAPA and Nokia this October conducted a DVB-H technology workshop in Singapore, the first of its kind in Asia Pacific.

But S-DMB and DVB-H are just two satellite delivered mobile TV technologies on the plate of Asia's satellite service operators. There's also Japan's ISDB-T and Qualcomm's MediaFLO. These, however, will also require deploying additional network infrastructure, developing new handsets, adding new spectrum—and forking over a lot of money.

Asia's satellite operators also have to consider IPTV, high definition TV (HDTV), digital radio, two-way Internet and the "headend in the sky" model that involves bundling content and technology into a turnkey package as among the applications that should generate huge demand for satellite capacity.

A plate of pleasant choices

Which brings Asia's satellite operators to a pleasant problem: a plethora of choices in which to sink their money.

Choosing the next moneymaker will be no easy task. The safest bet, however, seems to be IP or delivering high speed IP broadband from point to multipoint at the least possible cost while forging alliances with terrestrial network operators.

Satellite operator Loral Skynet is convinced video and IP broadband will drive growth in Asia's satellite service companies. The company believes China and India will be the lead players in video distribution and DTH applications.

Video will be a key market driver, especially when China legalizes DTH. As for IP broadband, Loral Skynet said that

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out of the more than 50 announcements from satellite service providers of new business in Asia in 2005, over 75% of these were IP broadband related. Regulatory challenges, however, were holding back growth especially in the huge markets of China and India.

Recovery at last

Loral's observations also confirm a reassuring reality: the satellite industry continues on a growth path begun in 2005 after years of weak revenues and flat growth.

The commercial launch industry is continuing a recovery begun in 2005 when global revenues rose 7% after years of decline. Arianespace, International Launch Services and Sea Launch, the world's major launch providers, are bullish on the industry's short-term growth with launches scheduled to replace ageing satellites operating over Asia.

The Satellite Industry Association (SIA) has said consumer focused satellite services drove growth in 2003 and 2004. SIA noted that companies from every major region and across each sector (operators, manufacturers, teleports, value-added resellers, carriers) reported improved business in 2005.

It said satellite services were leading the industry's recovery, accounting for 63% of industry revenues totaling \$97 billion in 2004. DTH accounted for over 80% of satellite service revenues.

China's intent to begin DTH satellite broadcasting in time for the 2008 Beijing Olympics should further strengthen the satellite industry's recovery. The recent launch of China's first DTH satellite was to have been the key that unlocks China's vast DTH market.

SinoSat-2, produced in China, was to have provided broadcast TV, digital TV, live broadcast TV and digital broadband multimedia systems to the Chinese mainland, Hong Kong, Macao and Taiwan, according to Sino Satellite Communications (SinoSat), a stateowned satellite operator.

Although launched successfully in October 2006, the satellite later failed in November because one of its two solar panels did not deploy. A replacement satellite is three years away although SinoSat-3, another DTH satellite, is to launch as scheduled in May 2007.

Chinese media earlier speculated the launch of SinoSat-2 might trigger the amendment of Decree 129 that prohibits individuals from setting up satellite dishes that receive foreign programs. Telecoms regulator the State Administration of Radio, Film and Television is said to be considering amending the regulation.

Industry analysts predict that some 100 million households are expected to become DTH users between 2006 and 2010. The launch of ChinaSat-9 in late 2007 is also intended to exploit the coming boom in DTH. ChinaSat -9 is capable of covering most of China, making it possible for 98% of residents to receive DTH programming.

Asia: world DTH leader

DTH's propagation in India and China will enable Asia/Pacific to remain the world's fastest growing TV distribution market. Analysts estimate the region's CAGR at 13%, with revenues rising from US\$16 billion in 2004 to US\$30 billion in 2009.

Asia's regulatory environment is



also improving. India's more liberalized telecoms regulations, for example, are believed to have contributed to its DTH rush.

Marketing a free-to-air (FTA) service on a DTH platform is the goal of newly organized Asia Broadcast Satellite (ABS) based in Hong Kong.

ABS in September acquired Lockheed Martin Space Communications Ventures (LMSCV) and Lockheed Martin Intersputnik (LMI) from Lockheed Martin Global Telecommunications. LMSCV owns and operates the LMI-1 satellite (now called ABS-1).

ABS-1 covers Asia, the Middle East, Eastern Europe and Africa with 28 C-band and 16 Ku-band transponders providing DTH and CATV services. ABS' goal, however, is to market an FTA service via satellite to countries in Asia and the Middle East.

ABS sees DTH as a profitable alternative to existing terrestrial and cable TV in many developing markets where there are limited cable infrastructure and penetration. Offering FTA will allow ABS to quickly capture a large audience.

IPTV to the rescue

Internet Protocol Television (IPTV) via satellite, while in its infancy, offers steady revenue possibilities for satellite operators.

IPTV, which is TV over broadband connections such as DSL, FTTH and Ethernet, is broadband's hot technology.

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It enables broadband Internet users to access TV broadcasts (both live streams and video on demand) via computers or on TVs with digital set top boxes. By distributing TV content over the Internet, IPTV permits a more customized and interactive user experience.

IPTV carries the promise of high market growth and, for Asian telecom operators, minimal investment in new IP networks. The value of Asia's IPTV industry was estimated at US\$300 million in 2005. China's IPTV market alone was valued at US\$36 million last year and Japan is world leader in FTTH installations.

Asia is the heartland for IPTV. Research firm IDC predicts 30 million people will be using IPTV worldwide by 2009, two-thirds of them in Asia.

This welcome mat for IPTV in Asia offers satellite service providers a window to exploit as analysts agree that IPTV will become mainstream. The question is not if but when.

South Korea entered the IPTV arena when KT Corporation, its largest fixed-line and broadband operator, launched a trial IPTV service in November 2006.

KT said the trial service includes a broad range of applications including broadcast, DVD, video conferencing, video-on-demand and multimedia messaging. Also available are multiple pictures-in-picture, remote programming of digital video recorders and digital photos. The trial service provides 24 TV channels, 1,200 on-demand videos and 27 interactive services ranging from education to finance. An electronic program guide and user-created content

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It was rolled out to 260 households in Seoul and Yangpyeong County, southeast of Seoul, where broadcasting



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signals are often weak or distorted.

The government has selected two consortia for the IPTV trials. The two consortia are led by KT and Daum Communications and include content providers, broadcasters, cable and satellite operators and electronics makers

A niche service? Satellite delivered IPTV will become an important revenue stream but is expected to evolve into a niche service said Northern Sky Research (NSR) in an IPTV market study. NSR believes the IPTV via satellite market should account for a small percentage of the market potential terrestrial-based platforms are likely to generate.

Satellite-based IPTV revenues from 2005 to 2010 are projected at \$1.6 billion compared to over \$7 billion for 2010 alone for terrestrial-based services. Despite this, NSR said IPTV does provide a unique growth opportunity for the satellite industry especially in select regions.

NSR said given the proven broadcast economics of satellites in delivering content cost-effectively to large geographic footprints, particularly in underserved areas, growth of IPTV via satellite services should increase at a steady rate.

Talking about IPTV as a whole, research firm Gartner, Inc estimates the number of households worldwide

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subscribing to IPTV services offered by telecom carriers at some 49 million in 2010. Subscriber numbers are expected to rise from 6.4 million in 2006 to 13.3 million in 2007.

Global IPTV revenue should grow from \$872 million in 2006 to \$13.2 billion by 2010. Although IPTV presents telephone companies with the opportunity to sell TV services, Gartner said IPTV will not be a panacea to replace vanishing voice revenue for carriers but can help retain customers of their existing voice and broadband services.

IPTV, however, is a godsend for telcos (who lord it over Asian telecoms) that can dominate the technology endto-end with their network infrastructure. End-to-end control allows telcos to guarantee enough bandwidth for their signal at all times, which is necessary for the high quality of service demanded by IPTV.

IPTV in the USA

IPTV presents telcos with the unique opportunity to enter the TV arena and provide triple play services. Telcos are, therefore, investing billions into new fiber rollouts and backend infrastructure. AT&T, for example, signed a US\$400 million deal for Microsoft's IPTV Edition software and a US\$1.7 billion deal with Alcatel.

AT&T also spent \$5 billion to build the first IPTV network in the United States while Verizon Communications Inc. is spending \$3 billion to deliver ondemand movies to subscribers via IPTV. Telcos, however, face stiff competition from cable and satellite TV companies that have an edge in numbers and experience, and resistance from customers who haven't the slightest idea about why they should choose IPTV instead of cable or DTH. Some 85% of US households are served by either cable or DTH. This high penetration rate means IPTV's only growth path is by taking subscribers away from cable and DTH. And that means competing on price, no easy task for any new technology burdened by high infrastructure costs, but which is taking place in Europe.

The USA and Canada, however, are expected to have one of the highest IPTV growth rates over the next five years. Gartner Consulting forecasts IPTV subscribers doubling almost every year until 2010. Gartner noted the mostsuccessful ongoing IPTV services are offered either as part of an overall household bundle of services.

Analysts feel IPTV could shake up the cable industry the same way that Voice-over-Internet Protocol (VoIP) has diminished the voice telephone business. But it should be years before IPTV pulls in significant market share.

IPTV's potential can be seen in India. Research firm Media Partners Asia predicts that DTH will become India's primary digital platform in the long term, taking over 65% of subscribers. IPTV is expected to take 25% while cable's share should drop to 10%. India currently has some 100 million TV homes, 62% of which have cable.

IPTV, however, is another competitor for the satellite industry especially in developed countries with their advanced IP network infrastructure.

One analyst believes the satellite



Peter I. Galace is editorial director of Satnews Publishers. He has written extensively on the telecommunications developments in Asia for numerous publications. Currently he is associate editor of Satnews Daily and Weekly editions, and art and production editor of the International Satellite Directory and the monthly e-zine, Satmagazine. He can be reached at peter@satnews.com.

market will be affected by the growing competition from IPTV and cable service providers launching on-demand services on their two-way networks.

But in countries where infrastructure has yet to develop, satellite operators have a great opportunity to build strong brands and make major market penetrations.

HDTV by satellite is gaining an Asian foothold and iPSTAR is about to offer HD video on demand among other new services.

ShinSat will offer its triple-play service in the form of "push HDTV," which is video on demand on highdefinition video. ShinSat said iPSTAR today serves almost 40,000 terminals compared to 26,000 in 2005.

The company said it can do both unicasting and multicasting. iPSTAR 's commercial broadband services are available in the six countries where it has gateways, including Australia and China. It is building two more gateways in China and expects to launch its service by yearend. It also expects to build a gateway in India.

There certainly are a lot of developments in Asian telecoms that can be very instructive to their US counterparts. One thing is certain—increasing consumer demand will be driving the mobile market in the next few years, and US operators need every lesson it can gleam from experiences in other regions.



FEATURE SES and Eutelsat: In the news again

By Chris Forrester

s Bette Davis said in 'All About Eve (1950): "Fasten your seatbelts. It's going to be a bumpy ride." 2007, just days old, is already showing that Europe's satellite industry might be in for a challenging year. For example, Paris-based Eutelsat, which is now the world's 3rd largest satellite operator, might well end up further consolidating its position during the year. That's generally considered to be good news, but arch-rival SES Global definitely has a few challenges to overcome, of which more in a moment.

Just before the holiday, two major transactions saw Eutelsat's investment fund shareholders selling out. The first trade saw Barcelona-based construction and communications outfit Abertis, buying a 32% stake in Eutelsat (for

1.1bn/\$1.4bn) on December 5, paying 15.50 a share. The overall stake bought is less than that required for a mandated offering for the complete business, but more than sufficient to firmly direct progress at Eutelsat. regulatory approval, expected to be a formality and to close early this year.

The market did not expect this initial Spanish purchase. Stock was sold by investment funds Spectrum Equity Investors and Texas Pacific (the 15% 'Nebozzo' holdings), Cinven Group (12%) and Goldman Sachs (7%). Eurazeo held onto its 25.5% stake for a few hours. Then, the second trade on Dec 7 saw Eurazio sell its 25.5% holding to the French state-owned bank, Caisse des Dépôts et Consignations, for 862.7m, or 15.70 a share. Giuliano Berretta, CEO at Eutelsat said: "We will now benefit from an association with two leading European groups in infrastructure who will enable us to pursue and accelerate our development."

Market sentiment wasn't 100%, with Eutelsat's share price falling immediately after the Eurazeo sale. However, the two trades now certainly suggest a period of stability for Eutelsat. The French bank (100% state-owned) is known to be looking to boost its portfolio of holdings in the telecoms sector, and tends to be a longer-term investor and not likely to be seeking a "quick flip" of its holdings.

The market responded well to the stock sales in that it removed the major portion of the 65% share overhang in Eutelsat, which had created a degree of

Abertis is better known for its interests in many of Europe's motorway systems, and is buying the Eutelsat stock in the name of Abertis Telecom which already owns Spanish transmission company ReteVision which in turn owns a slice of Madrid-based satellite operator Hispasat. Abertis' purchase is subject to



Source: Euroconsult, based on 2005 revenues

(1) Extended Europe defined as Western Europe, Central Europe, Russia and Central Asia, Middle East and North Africa

uncertainty. Abertis, in its statement, said it was not "necessary in the present circumstances" to take full ownership.

Abertis' CFO Jose Aljaro, specifically asked where Hispasat fitted in his overall plans, stressed that Abertis has no plans to merge Hispasat with Eutelsat, although was a little vague when asked what future synergies might be achieved. At Madrid-based Hispasat Eutelsat has a 27.7% holding. Last year Abertis did attempt to expand its holdings in Hispasat, where Abertis is the Number 2 client for Hispasat. The analyst's presentation, issued by Abertis, talked of the Eutelsat acquisition being part of a "strategic movement towards the consolidation of the telecommunications business unit" within Abertis.

Abertis' statement said: "Eutelsat is destined to become a noteworthy component of Abertis' core equity investments, within the framework of an investment model based on the principle of commitment to, and invigoration of, growth-oriented industrial projects, guided by a vision of stability and longterm investment horizon."

Market sentiment was good, with Dresdner Kleinwort in a Dec 5 note saying the Abertis acquisition represented increased diversification for the construction group and expansion for its telecoms division. Telecoms represent an 11% segment of Abertis' overall sales.

Merrill Lynch in its note talked of the Hispasat link, saying: "One ramification of the Abertis move could be to speed up an acquisition of Hispasat With a Spanish cornerstone investor at Eutelsat, we believe this should allay Spanish concerns about national security regarding Hispasat's 43% interest in Hisdesat, a Spanish military satellite venture. We believe an acquisition of Hispasat is strategically and financially sensible." The bank added: "The move by Abertis, which highlights the strategic rationale for combined terrestrial and satellite distribution, could also be the first move in a (possibly drawn out) full blown takeover."

Morgan Stanley in a pre-holiday note, downgraded their advice on Eutelsat to an 'Equal Weight' investment position, and instead suggested that investors should now focus on SES Global, in that the Fixed Satellite Services sector remained good and while the short-to-medium term news flow had now evaporated for Eutelsat, SES Global remained their preferred pick. Aysha Zaman, senior analyst at Dresdner, also now firmly picks SES Global, and with a target price of 17.

Eutelsat's uncertain future is one problem. SES Global has a problem of another colour, and it is taking place at its European Astra division. Just as Abertis' lawyers were signing their documentation, in a German court there was another set of decisions being made. The German Bundeskartellamt (Cartel Office) has blocked the planned launch of SES Astra's 'entavio' system. The 'entavio' scheme would have seen Astra link with two German commercial broadcasters which would encrypt their current free-to-view satellite signals, with an Astra subsidiary issuing set-top boxes.

Specifically, the German authorities stopped the investigation because Pro7/ Sat1 told the Cartel Office on Dec 5 that it would scrap its encryption plan for free-to-air channels. Dr Ulf Boege, president of the Cartel Office, said with Pro7/Sat1 withdrawing their plans "the suspicion of coordination ceased to exist". Dr Boege was quoted as saying that documents it had seen "corroborated" the reasons for their examination. Other local critics of the SES plan described the result as a verdict for common sense. The Federation of German Consumer Organisations (VZBV), for example, talked about the decision resuming consumers' trust.

Either way the 'entavio' (initially knows as Project Dolphin) scheme has created acres of negative press for SES Astra, and this constant stream of bad news has badly affected SES Global's share price, now trading at a discount to Eutelsat.

SES Astra says its original 'entavio' plan is now modified so that the new focus will now be as an open platform for pay-TV. This revised SES revenue model sees income coming not from consumers paying a planned – and highly controversial - "technical fee" of around 3.50 a month, but from potential pay-television platform partners (with whom SES is already in discussion). The market expects SES revenues to be lower in absolute terms, but its costs will also be lower than anticipated, and overall leading to a 4-5% improvement in EBITDA during 2007.

This EBITDA improvement is the good news, and unanimously welcomed by the market. However, the bad news is that without a firm strategy for broadcasters to switch from simple analogue transmissions to revenue-generating digital transmission, there's a high risk that German viewers will hold onto the status-quo, sticking with analogue broadcasts and NOT migrating to any form of pay television, whether at Astra's ultra-low 3.50 a month or Premiere's more conventionally priced sat-TV bundle. SES, of course, might well end up earning very useful longerterm transponder rentals as a result of any extension to analogue viewing and while this is superficially appealing, the

Cartel Office's decision does little to drive the digital market forward.

This was the view of the market. Morgan Stanley, in a pre-holiday note ("Dolphin Lite"), said the Cartel Office decision meant the prospect of analogue switch off being extended to the middle of the next decade was "very real indeed". In the bank's view, the longer that analogue continues, the easier it will be for the transponders in question to be gradually reabsorbed into the market. "The aim will be the same, for an open platform upon which all services can be carried, thus making it easier for consumers to subscribe for different permutations of pay and free television. However, the business model will be very different: this will now be a B2B model, and will generate revenues from the pay-television bouquets that sit on the platform, rather than from consumers paying a monthly technical access fee," said Morgan Stanley. SES Astra is already in discussion with some broadcasters, not least a new entrant, the 'Stargate' platform, which proposes aggregating channels for new subscribers. Indeed, Dresdner Kleinwort in its note, reminds us that emerging digital packagers like Stargate might well end up happily subsidizing Entavio boxes.

The German satellite mix

2.7m homes have digital FTA satellite 3.6m have digital pay-TV by satellite 10.1m have analogue satellite Data: Morgan Stanley/SES Astra

The German digital mix

	2005	2006
Cable analogue	46.7%	44.6%
Cable digital	5.0%	7.2%
Cable total	51.7%	51.8%
Satellite analogue	26.4%	23.5%
Satellite digital	16.7%	19.5%
Satellite total	43.1%	42.0%
Terrestrial analogue 5.3%	3.9%	
DTT	4.4%	5.3%
Terrestrial total	9.7%	9.2%
Data: New Television Insider		

Morgan Stanley suggests that SES might still end up with a modest per-subscriber fee: "Looking at the financial implications of this change, firstly we note SES' comments that the revised platform business model will result in the generation of far lower revenues than were envisaged under the old scenario. In the latter case, SES planned to



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charge consumers a technical access fee of 3-3.5 per month, as well as a one-off connection charge. It is very clear that no pay-TV operator will be willing to pay a fee of that magnitude, unless SES were to take over some activities of the pay-TV operator (i.e. become an outsourced servicing company). However, we do not see this as likely, given that SES was in any case going to outsource a lot of the consumer facing activities anyway. Thus it is likely that there will be a very small fee per customer paid by the pay-TV platform, perhaps 0.50/month."

"The German satellite market is rather a disorganized system," says Morgan Stanley, "with no interoperability between set-top boxes and/or pay-TV platforms. Without the entavio system, which was designed to knit the whole thing together, we do not see any reason why the pace of analogue conversions should accelerate. On this basis, we continue to believe that demand for analogue transponders will remain firm for a considerable period of time, such that the drift back into the market of the analogue transponders about which the market has worried will be very slow. In our view, the slower the rate at which analogue broadcasting is given up, the easier it will be to absorb those transponders back into the market."

Morgan Stanley's initial estimates that by 2012 there would only be some 10 analogue channels still broadcasting is now probably out of the window, and – says



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the bank – now probably too low a figure. Currently there are 43 Astra transponders (41 focusing on Germany) fully occupied with analogue transmissions. However, the bank says there is too much uncertainty to revise those

's calendar		
	Good news	Bad news
Entavio decision	EBITDA up	Delay to digital conversion
AMC-18 launch	Safe and sound	-
Panasonic/Connexion		
decision	Worth 12m p/a	?
Astra 1L, NSS8 launches	Sighs of relief	?
Quetzsat RFP expected	Expansion into Mexico	-
TPS/Canalsat sat. details		Benefit for Astra?Benefit to Eutelsat?
2006 results		
Sirius 4 launch		
an Stanley/Inside Satellite TV		
	Entavio decision AMC-18 launch Panasonic/Connexion decision Astra 1L, NSS8 launches Quetzsat RFP expected TPS/Canalsat sat. details 2006 results Sirius 4 launch an Stanley/Inside Satellite TV	Good newsS calendarGood newsEntavio decisionEBITDA upAMC-18 launchSafe and soundPanasonic/ConnexiondecisionWorth 12m p/aAstra 1L, NSS8 launchesSighs of reliefQuetzsat RFP expectedExpansion into MexicoTPS/Canalsat sat. details2006 resultsSirius 4 launchan Stanley/Inside Satellite TV

SES : Revenue predictions (in 000,000 Euros)								
	2005	2006	2007	2008	2009	2010	2011	2012
EMEA	765	886	1,007	1,054	1,108	1,065	1,068	1,070
Americas	459	522	427	472	500	522	569	624
Asia/Other	34	33	34	38	31	33	35	37
New Skies	0	152	198	208	217	226	233	240
Project Dolphin	0	0	13	66	121	204	296	398
Total Revenues	1,258	1,593	1,679	1,837	1,978	2,050	2,203	2,368
Growth % 16.7	26.6	5.4	9.4	7.7	3.6	7.5	7.5	
Data: Morgan Stanle	ey							



estimates upward other than to say that there's plenty of scope for extensions to the length of time needed for Germany's analogue-to-digital transition that would help SES Global's revenues in the 2008-2012 time-frame.

There also seems to be progress on General Electric's 19% shareholding stake in SES Global. GE acquired its shares as part of the SES purchase of GE Americom. Morgan Stanley suggests that GE might exit SES Global "within the first six months of the year" and that SES could buy back the majority, if not all, of the stake. This news, as with the BluCom news mentioned above, is part of a much more positive newsflow over the upcoming weeks, not least possible news on the 'Connexion by Boeing' aircraft broadband replacement service from Panasonic.



London-based Chris Forrester, a well-known broadcasting journalist is the Editor for Europe, Middle

East and Africa for SATMAGAZINE. He reports on all aspects of the industry with special emphasis on content, the business of television and emerging technologies. He has a unique knowledge of the Middle East broadcasting scene, having interviewed at length the operational heads of each of the main channels and pay-TV platforms. He can be reached at chrisforrester@compuserve.com

VIEWPOINT

New Challenges in Network Design

By Alan Gottlieb with Mike Hinz

Retwork planning isn't simple anymore. Satellite and fiber networks are becoming ever more complex. Numerous new elements are being added to networks and new technologies on the satellite side are proliferating. Where once SCPC was the dominant means of satellite transmission, shared hubs combined with the migration to IP based networks are generating new and complex problems, problems that network managers and suppliers of individual network components are unlikely to resolve on their own.

While each individual component manufacturer has an in-depth understanding of the functionality of their own device or software platform, how well each individual component will work when combined with other components and run across hybrid satellite/ terrestrial networks remains a mystery until those components are tested in a simulated environment. In addition, latency associated with some software packages, including certain Microsoft products, can be a problem as well when used across a satellite network. These new complexities have generated a need for a new, higher level network planning expertise and problem solving.

Enter YR20, a unique network engineering and consulting firm focused on confirming the viability of complex network design through extensive laboratory testing and simulation and trouble shooting existing network problems. Headed by Mike Hinz, former Director of Real Time Services at Halliburton, YR20 leverages Mike's unique expertise in network design and management acquired through extensive field experience managing Halliburton's massive VSAT network. Compared to the simple old days of SCPC, the kind of complex problems faced by Mike and his team everyday require expertise far beyond the skill level of typical in-house IT groups. For example:

The Onshore Operations Center

In the North Sea, a major oil company is evaluating moving its RealTime operations from the rig onshore. For the oil company, this means moving 15-20 highly skilled geophysical and engineering personnel from the rig to a secure land-based operations center. The net result: a significant enhancement to employee efficiency, a drastic lowering of operating costs and a reduction in required personnel space on the rig itself.

However, from the communications perspective, the oil company needs to assure an acceptable quality of service across both satellite and fiber networks under conditions involving a myriad of high bandwidth applications and critical oilfield telemetry.

Essentially, managing the bandwidth to assure uninterrupted transmission of the telemetry across finite bandwidth is absolutely critical. To assure prioritization of critical telemetry as well as available bandwidth for new broadband applications, YR20 tested the planned configuration in the laboratory, and assured that QOS was properly managed end to end across the numerous links in the network. If necessary, YR20 will use proprietary instrumentation to assure QOS is applied uniformly across the network.

The net result of this project was a network that performs properly, a substantial saving for the oil company customer, and significantly enhanced operating efficiency.

Risk Management Software – Web Client

In order to manage risk, oil companies frequently employ risk management software to assure proper compliance with corporate and regulatory procedures. Typically, such software is installed at major company date centers world-wide and accessed from rigs and remote locations via the network. In such a thin client environment and across both fiber and satellite links, software can be very latency sensitive. In some cases, the network needs to be fine tuned and in others, certain modifications need to be made to the actual software itself including re-writing of code.

YR20 was recently approached by a manufacturer of risk management software. While the software performed well across domestic terrestrial links, on rig sites performance was abysmal. To resolve the problem, YR20 tested the

VIEWPOINT

software in a lab environment.

YR20 immediately defined two issues. First, the web server was misconfigured which severely limited the data rate at which the server was able to respond to data requests. Second, certain client queries caused the database server to respond extremely slowly. As a result of these observations, changes were made in individual queries resulting in significant improvement in software performance and reduction in latency across the network..

The kinds of network problems faced by YR20 are now becoming significantly more prevalent in the industry as new technologies and new software applications strain network performance as never before.

Broadband demand is soaring and users are taking advantage of the increased bandwidth to send video, photos, documents and even music. ASP models are proliferating. Offshore rigs are using more and more bandwidth as companies are discovering the advantages of re-location of critical rig based applications onshore, use of video conferencing, transmission of engineering documents and VoIP.

What YR20 does is rapidly becoming a vital function in the oilfield and for any enterprise involved in the transmission of data and broadband applications across a wide area network, and, in particular, in particular, firms whose transmission technology spans fiber, microwave and satellite.



Alan Gottlieb is CEO and Principal Consultant, Gottlieb and Company.Some of his most notable assignments including opening of enterprise markets in Oil and Gas, International Construction, Pulp and Paper, Hospitality and Call Center Industries for Verestar and a survey of the market for Inmarsat BGAN services in the oil and gas industry for

Inmarsat. In these assignments, Mr. Gottlieb employed an innovative combination of on-site market research interviews and specialized sales technique to produce market entry strategies as well as generate initial sales. He can be reached at alan.gottlieb@comcast.net



Mike Hinz is President of YR20, a highly successful company founded in 2001 that offers a combination of proprietary world-class network diagnosis and monitoring hardware and software tools on service basis backed up by highly qualified engineering expertise. YR20 fulfills a critical role in assuring the quality, performance, and reliability of

data and telecommunications networks. YR20 also offers independent consulting services regarding remote site communications solutions. He can be reached at mike.hinz@yr20.com

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EXECUTIVE SPOTLIGHT

Interview with Globecomm Systems Chairman and CEO David Hershberg

Hauppauge, New York-based Globecomm Systems is probably one of the most vertically integrated companies in the satellite industry being able under one roof, to design, install, integrate, support, manage and operate your systems and networks. They provide turnkey services that offer the same features and functions as a customer-owned facility. They manage and implement a varied range of projects worldwide including program origination for major US broadcasters, hybrid fiber-satellite networks in Afghanistan and GPS tracking system for NATO in Europe, among others. At the helm of Globecomm is their Chairman and CEO, David Hershberg, a 47-year veteran of the industry who has seen both good times and bad times during his long and storied career. Hershberg recently sat down with Satnews Managing Editor, Virgil Labrador to share his insights on running a company as complex as Globecomm and his thoughts on the satellite industry as a whole. Excerpts of the interview:

Q. For the benefit of our readers, can you give us a brief background of your company and where you are at right now in the industry?

A. Where we are right now is really a culmination of a lot of things that we have been doing for a lot of years. When we first started the company we began as a supplier of satellite communication earth stations and we went along quite happy for quite a while providing just that. In 1996, we started a division called Netsat Express to provide internet services to developing countries. Netsat Express has since developed into our service arm which is Globecomm Network Services. So, where we are this year is the result of a lot of the things we've been wanting to do for a long time. Number one, we wanted to get into new markets. The government market was our first priority-we were not strong in that market five years ago. This year

close to 50 percent of our business is in the government sector. The other areas where we have made some very good strides are the broadcast industry--where we are now building the MPEG-4 headend for SES Americom's IP PRIME service. Another area where we have been active in is in the provision of services to common carriers. Voice over IP services this year will be at a record level and we are doing a lot of interconnections for ISPs. We also do some business in the enterprise area--not as much as we want to, but it a growing area for us. We have two flagship customers in the enterprise area--Home Depot and Bank of America.

What we really have been working on doing is taking the service business that we've had and putting that with our basic infrastructure business that we've been working on since we started the company and be able to offer our



David Hershberg

customers a real full turnkey solution to whatever kind of telecommunications issues or needs they've got. And by that I mean we'll build the network for them, we'll maintain and operate it for them, we'll provide the space segment, we'll terminate it into teleports for them and we run a 24 x 7 call center, Basically we are a one-stop shop. And we truly are, as we can do it all from our 125,000 sq. foot facility in Hauppage, New York.

Q. At this point in time where will the biggest growth coming be coming from?

A. The government, then broadcast and finally IPTV.

Q. With so many different projects in many parts of the world and only 210 people, how do you manage all of your

EXECUTIVE SPOTLIGHT

diverse projects?

A. With a lot of less sleep. But seriously, we are very fortunate to have a lot of very good people who have been with us for a long time. They are excellent employees and they know their business very well. We aren't a lot of things but we do have a very good IP capability and that has really helped us. Without the capability to converge all the different technologies that we are doing for our customers, we would not be able to do what we are doing now.

15 years ago-- you needed myriad types of equipment like multiplexes, switchers, etc., and then you'll have a different kind of network for video, data and voice. Now, you only need one router and one server and you can have different video, voice and data services coming out of the same platform.

Q. Do you think you can sustain this growth in the next few years?

Well, as a public company you really do not have any choice, you have to. I think we are in enough places now and we have enough capability and the product and services to grow. I definitely think we can sustain our growth because we are well-positioned in the market and we have good product lines.. We've grown from about \$55 million to over \$100 million in annual revenues in a fouryear period and we've done that mainly internally.

Most companies in this business has been merging or acquiring other companies to grow and if you want to keep growing I think it's something you'll have to look at. It would be nice if we could find an acquisition somewhere, as it will make our life a lot easier, but in the meantime, we have nothing yet, but we're looking.

US Navy Acquires AutoExplorer Terminals from Globecomm Systems

In the last quarter of 2006, Globecomm announced that it had signed a deal with the



Naval Air Warfare Center Aircraft Division for 50 of the company's AutoExplorer satellite terminals, to be delivered by mid-2007. The Navy award added to a string

of military, government and commercial awards for the self-aligning portable satellite terminals, which are available in .77, 1.0 and 1.2-meter configurations.

AutoExplorer terminals include integrated electronics (L through Ku-band and all intermediate frequencies) and are IP-enabled to accept optional routers and satellite IP-optimized solutions. Suited for tactical support of military and peacekeeping forces as well as enterprise network and Internet access, the terminals provide cost-effective, two-way communications at rates of up to 2 Mbps. The antenna can be set up in less than 15 minutes and the auto-align system automatically locates, peaks-up and drives to theoretical cross-polarization position with base tilt correction. More information on AutoExplorer is available at <u>www.globecommsystems.com</u>.

One other thing we are doing in order to stay on top of technological developments is constantly innovating. We have four laboratories doing research and development.

Q. Are you profitable?

A. Yes, we have been for the last 12 quarters. We lost a lot of money in the late 90s from the Netsat Express venture, but we really turnaround the company by diversifying our services and the markets that we serve. That way if there is a downturn in one area, say in the government business, we still have other product lines such as the broadcasting and enterprise to fall back on.

Q. What about the satellite industry as whole, what do you think are the prospects in the near-term?

I'm very bullish about the industry. I've been in the industry 47 years now and its changed a lot. I think I learned a lot more in the last five years than in the first 42 years.

There is certainly a lot of opportunities for the satellite industry. One is the broadcast part of the business where satellite is an obvious choice for that. Another is stuff like the handheld media like satellite radio will be a big business and satellites have a big role to play in that. Then you have the military--which is becoming more net-centric in the battlefield, that will require a lot more bandwidth. I think there is also growing demand for backup systems because of the concern for Homeland Security. One other subtle opportunity is the cellular market which now has two billion users mostly in cities. The next billion users will have to come from rural areas, so called "telecommunications islands," where satellite is a natural delivery platform. So there's a lot of good things going for the industry. SM

VITAL STATISTICS

Presented by

The satellite industry is still paying a hefty price for its excessive investments of the late 90s'



- Recent consolidations have not yet contributed to resolve oversupply situations especially in Asia and Latin America.
 Operators are not equal in facing stiff market conditions
 - Global operators benefit from large economies of scale. They are in a position to drop prices to increase their fill factors
 - · National flagship operators protected by regulatory barriers are able to keep heir prices reasonably high
 - The other operators struggle to contain serious price competition while keeping their financials sustainable
- Prices have decreased by 30% between 2000 and 2005.
 - Low end prices for commodity capacity can be found at USD0.5-0.7 million
 - Large fleet operators owned by private equity firms could further enhance this trend with the objective to rapidly improve fill rates
- Consolidation of regional players is thus bound to occur, especially in Asia, to provide them with a stronger ability to face global operators.
 - It would lead to wider groups with larger assets, lower risks and superior access to corporate and project financing.
 - It would enable to benefit from economies of scale, combined know-how, enhanced track-record, satellite back-ups, fleet rationalization, diversification of revenue sources, and a wider distribution network.
- The creation of mega global operators stresses the point, and is likely to further jeopardize the survival of small operators.
 - In Latin America, the first steps of rationalization are happening respectively around SES Global and Intelsat. However, it is still too early to notice any change.
 - Asian players will have to undergo a consolidation process. They are still in a position to decide whether they want to remain independent or not, but this situation is unlikely to endure.

Asia features the biggest number of satellite operators



About Aon Explorer

Aon Explorer is the strategy consulting arm of Aon France in the aerospace and telecoms markets. Resulting from the acquisition of Vista Advisers in January 2005, Aon Explorer Strategy & Finance has developed a thorough expertise in business plans, feasibility studies, companies due-diligence both for the satellite industry and the finance community. Please contact Laurence Journez, Vice President, tel: +33 1 5875 6064, email: laurence_journez@aon.fr

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MARKET INTELLIGENCE

Vertical Markets & IP Satellite: Evolving the Dialog on Operational Mission Criticality for ICT Applications

By Martin Jarrold

Chief, International Program Development, Global VSAT Forum

In the purview of satellite industry 'insiders' it is certainly firmly appreci ated that much of the world's broadband ICT networking capacity is dependent on state-of-the-art satellitebased solutions, and that this is so essentially because of the three fundamental defining characteristics of satellite.

Cost Effectiveness

Communications over satellite can be extremely cost-effective. The total cost of ownership of broadband via satellite solutions has been reduced by economies of scale in the use of satellite networks and of seamless satellite/terrestrial hybrid networks in most countries over a 20-year period. Globally, over one million receive-only terminals using IP multicasting have been deployed, together with nearly one million interactive terminals.

<u>No Limitation of Distance, Geogra-</u> phy or Location

The unmatched cost-effectiveness of broadband over satellite also arises from the unique combination of broadcast capabilities within full networking solutions, without limitation of distance, geography or location. IP over DVB is the *de facto* standard for broadband communications over satellite, and such systems clearly demonstrate their greatest cost-effectiveness by matching the asymmetric nature of Internet traffic. Satellite services can provide 35-45 Mbps for backbone connection, with significantly greater data rates available for key business applications, e.g. videoconferencing. Multicasting speeds reach 2-10 Mbps and delivery of Internet to consumers can be achieved at DSL speed or greater.

Rapid, Economic and Reliable Deployment

Satellite access solutions can be deployed rapidly and economically with uniform quality of service at all user locations. High-speed and secure delivery of all types of broadband applications is achieved through a single, end-to-end solution that is more reliable than terrestrial alternatives, flexible to fit with present demand, and scalable to fit all future requirements.

Equally, it is understood within the purview of 'insiders' in the very many commercial, industrial, government and civil society "vertical" markets around the world that the ready availability of, and reliable, cost-effective, access to, efficient means of communication is essential to mission critical operational success.

The key is in continuing to bring these perspectives into close proximity

in ever more innovative and creative ways. This - of course - is a major element of the global educational brief of the GVF. Nowhere are the facts of vertical market ICT requirements more evident - to mention but three of these verticals - than in the energy/raw materials exploitation environment, in the business continuity/disaster recovery/emergency management environment, and in the extended deployment of terrestrial mobile networks supporting voice and extended broadband data applications. Satellitebased communications, together with satellite-terrestrial hybrid solutions, already play a vital role within these sectors - providing essential connectivity in challenging geographic and other physical circumstances - but it is a role which has both demand-side and supply-side potential to expand.

To promote and facilitate this proximity, to bring focus to key points of discussion, and to provide networking opportunities for demand (end-user) and supply (vendor) expert practitioners, the GVF has announced two key opportunities in the first half of 2007 at which the nature of the communications imperatives of such verticals will be fully addressed:

> • The 3rd GVF Satellite Symposium @ CABSAT – organized in collaboration with Dubai World Trade Center, UAE, and which

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takes place during the 13^{th} Middle East International Cable, Satellite, Broadcast & Communications Exhibition, 6-8 March 2007.

• Oil & Gas Communications 2007: The Second Africa and the Middle East Conference – organized in collaboration with UK Event Management Partners (UK-EMP), and following the acclaim for the first Oil & Gas Communications event in May 2006 will once again take place in Cairo, Egypt, during May 2007 (exact dates yet to be confirmed). The program for the latter of these events is in development, but will include such themes as: The evolutionary dynamics of application and technology trends; Bandwidth supply and demand; Bandwidth pricing and Quality of Service issues; Hybridization of communications solutions offerings; Satellite links and disaster recovery; Using communications to manage environmental impact; Oil & gas ecommerce; the licensing/regulatory environment; and, industry case studies.

However, for this issue of SatMagazine.com I will focus on the first of these events in Dubai. 'Applications Innovation for Mission Critical Solutions: Vertical Markets & the Growth of Middle Eastern IP Satellite' is the title/theme for the 3rd GVF Satellite Symposium @ CABSAT. With reference to the demand – supply/end-user – vendor context defined above, this is a title that reflects the vitally significant trends in the evolving business mission of the satellite communications industry:

(1) To overwhelmingly focus on the delivery of IP-based applications; and,

(2) To direct that focus on ensuring that key vertical markets are well

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served.

CABSAT has always been an important exhibition in the Middle East satellite show calendar, particularly for the satellite broadcast industry, but by 2005 it had been through a noticeable transition. At the 11th Middle East International Cable, Satellite, Broadcast & Communications Exhibition I first observed a very significantly elevated presence on the exhibition floor from the satellite communications industry. This transition continued in 2006 at the 12th CABSAT show, and 2007 promises even greater things, with an even stronger reference to, and particular focus on, the vertical markets environment.

With 'Applications Innovation for Mission Critical Solutions: Vertical Markets & the Growth of Middle Eastern IP Satellite' the GVF has linedup another program to again bring a value-added conference flavor to what is, otherwise, primarily an exhibition. The content of this program is, of course, set against the regional backdrop of unprecedented demand for IPbased services which continues to drive millions of potential end-users towards various technology platforms that can deliver broadband communications solutions. But, the ongoing question remains... just exactly how are satellite-based IP broadband solutions competing in this dynamic environment?

The GVF Symposium program is structured to answer this key question, and in summary, is as follows.

Identifying Key Regional erticals & the Mission Critical Solution

- The Energy Sector and IP Satellite
- Disaster Recovery, Emergency Management, and Business Continuity Provision over Satellite
- Satellite in the Market for Mobility: Mobile Satellite Services and Terrestrial Services Backhaul

Current State-of-the-Art IP Satellite in the Middle East

- Making the Most of the Bandwidth
- Regional Satellite Capacity: Is There Enough?
- Spectrum Competition: Is the Battle for C-band a Middle East Issue?

The Innovation Challenge: Evolving, Developing & Adapting the Satellite Application

- Innovation Challenges Case Study 1 and the Solution
- Innovation Challenges Case Study 2 and the Solution
- Innovation Challenges Case Study 3 and the Solution

"Future Evolution": Advancing the Dynamics of the IP Satellite Solution

- Alternative Satellite Technolo gies: Platforms and Performance
- Cost-Effectiveness and the Competitive Business Model for IP Over Satellite
- Extending the Role of VoIP The Satellite Connection
- Next Generation Networking over IP Satellite

A number of the key speaking/ presentation opportunities in this program have already been filled, but slots are still available, as are opportunities for organizations to heighten their CABSAT profile through sponsorship of the Symposium.

The complete Symposium program will be published on <u>www.cabsat.com</u>, and further information on speaking slots and sponsorships may be obtained from Martin Jarrold, the Symposium Chairman, at <u>martin.jarrold@gvf.org</u>, or telephone + 44 1727 884513



Martin Jarrold is the Director, International Programs of the Global VSAT Forum. He can be reached at martin.jarrold@gvf.org For more information on the GVF go towww.gvf.org

STOCK MONITOR

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ASIA SATELLITE (ASIASAT)	<u>SAT</u>	18.30	15.91 - 19.60	Advantech AMT	24
BALL CORP		43.60	34.16 - 45.00	www.AdvantechAlvil.com	
BOEING CO	BA	88.84	65.90 - 92.05	Andrew	29
BRITISH SKY ADS	<u>BSY</u>	41.20	34.06 - 43.75	www.andrew.com	
CALAMP CORP	CAMP	8.44	5.44 - 13.90	ΔΝΔCOM	25
C-COM SATELLITE SYSTEMS INC.	<u>CMI.V</u>	0.34	0.23 - 0.56	www.anacominc.com	20
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