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Vol. 4 No. 5

European Market



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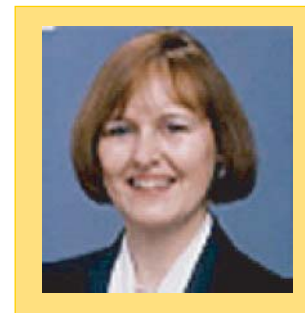
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NOTE FROM THE EDITOR

Boeing Gets out of the Inflight Satellite Service Business

It seemed like we were headed for another uneventful summer, which in this business no news is usually good news, that is, until Boeing announced that it will be discontinuing its highly-touted inflight high-speed broadband service, Connexion by Boeing, after six years of work and about \$1 billion of losses.

“Over the last six years, we have invested substantial time, resources and technology in Connexion by Boeing,” said Boeing chairman, president and CEO Jim McNerney. “Regrettably, the market for this service has not materialized as had been expected. We believe this decision best balances the long-term interests of all parties with a stake in Connexion by Boeing.”

Boeing estimated it would rake in revenues of \$25 billion a year when it launched Connexion. But McNerney admitted his predecessors had overestimated demand. Too bad, maybe the idea was just too much ahead of its time. I used the Connexion by Boeing service several times on long haul flights to Europe and Asia and was very satisfied with the service. However, apparently not that many others used the service enough to justify its continuity.

It really was a great idea, but perhaps the troubles plaguing the airline and travel industry has something to do with its failure. History is not on the side of inflight satellite services taking off as there have been a string of failures in aeronautical passenger communications businesses, such as the recently announced shutdown of Verizon Airfone is just the latest example. Satellite phones have been installed on commercial aircraft for over a decade, but still attract less than five minutes of usage per aircraft per day on average.

Still, there are several other companies still trying to get into inflight services business such as rivals AirTV and On Air, don't write off inflight satellite services just yet. Perhaps Boeing not only underestimated the demand for the service but the gestation period necessary to achieve a critical mass for such a cutting-edge service.

Virgil Labrador

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calendar of events 2006

Aug. 22-26, Beijing, China

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Sept. 7-11, RAI Convention Centre, Amsterdam

IBC2006 Conference

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Sept. 21, London, UK

1st European Mobile Satellite Radio Summit

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Sept. 20-22, Beijing, China

China Satellite 2006

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Sept. 26-28, Hotel Lotte World, Seoul, Korea

APSCC 2006 Satellite Conference and Exhibition

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Email: info@apscc.or.kr

Website: www.apscc.or.kr/event/apscc2006.asp

Oct. 19 - 21, World Trade Centre, Mumbai, India.

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SA

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Nov. 16, London, UK

Personal TV Conference

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Nov. 20-23, Moscow, Russia

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Nov. 28, New York, NY, USA

ISCe Satellite Investment Symposium NYC '06

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Nov. 29-30, New York, NY, USA

Satcon 2006

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Website: www.satconexpo.com

FEATURED EVENT

ISCe Satellite Investment Symposium



ISIS NYC '06

November 28, 2006, New York City

With the high profile takeover of private investments firms of major satellite companies in the last few years, the investment community has given a much needed boost to the satellite industry. To fill a void in the industry for a quality conference on the investment side of the satellite business, leading industry conference organizer [Hannover Fairs USA, Inc.](#) announced the launch of its inaugural ISCe Satellite Investment Symposium NYC '06 (ISIS NYC '06), which will take place November 28, 2006, at co-host Jones Day's law office in midtown Manhattan, New York City.

ISIS NYC '06 will bring together high-profile executives in the satellite television (DBS), satellite radio (DARS), mobile satellite (MSS), fixed satellite services (FSS), IPTV, Broadcasters, Digital TV/SyndEx and Mobile Video sectors of the satellite industry with leading New York financiers and members of the Wall Street community.

"Since the cancellation of the SkyFORUM event two years ago, the satellite industry has not had a true satellite finance event in New York City. I am pleased to announce the launch of this new executive-level one day program, which will focus on the financial foundations of the multi-billion dollar satellite communications marketplace," said Art Paredes, president and CEO of Hannover Fairs USA, Inc.

"Given the increasing role of private equity players in the commercial satellite communications sector, the financial aspects of this great industry have taken front and center stage over the last few years," said David Bross, chairman of ISIS NYC chairman and the [ISCe Conference & Expo](#). "We and our esteemed industry and media partners believe there is a need for a venue that fosters dialogue and debate between leading members of the financial community and executives representing the multi-faceted satellite services sector," he added.



- **Mobile Satellite Services and the New Customer Markets**
- **WTA Translating the Trends Workshop**
- **Consolidation and Market Shares Projections for Fixed Satellite Services Operators**
- **The Broadband Game: How Does Satellite Enter the Fray?**
- **Defining the Continued Battles Between Broadcasters and Satellite Companies**


"The conference is different from other events in the satellite industry as it is the only financial seminar, held annually in New York, to focus solely on the \$85 billion business of financing and investing in commercial satellite-based concerns. It will be a unique blend of panel sessions and executive interviews exclusively featuring executives at the chief financial officer (CFO) level and higher," added Bross.

The one-day conference is not just all business, though, with opportunities for networking as well. The organizers of ISIS also encourage participants to attend the new SSPI Future Leaders Dinner at the conclusion of ISIS at The Princeton Club in Manhattan. This annual fundraising reception and dinner is the premier social networking event of

"Satellite Week in NYC," featuring ISIS NYC '06 and other major industry events. This dinner will honor future leaders who are currently making a difference in our industry and an executive who is recognized for his or her success in mentoring industry professionals. ISIS NYC '06 attendees as well as SSPI and SIA members are eligible for a 10 percent discount to this dinner.

Key sessions at ISIS NYC '06 include:

- **The Future and Growth of Satellite Television**
- **Satellite Radio: Will the Rapid Pace of Growth Continue?**

For more information on ISCe 2006 Conference and Expo contact the Conference Chairman, David Bross at +1-301-916-2236 or e-mail at: dbross@hfusa.com or go to www.isis-nyc.com 

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NASA to Invest \$500-M in Private Sector Space Flight with SpaceX, Rocketplane-Kistler

WASHINGTON — NASA said it is making an unprecedented investment in commercial space transportation services with the hope of creating a competitive market for supply flights to the International Space Station (ISS).

NASA said the two industry partners who won the Commercial Orbital Transportation System (COTS) award last week will receive a combined total of approximately \$500 million to help fund the development of reliable, cost-effective access to low-Earth orbit. The agency is using its Space Act authority to facilitate the demonstration of these new capabilities.

NASA signed Space Agreements on Aug. 18 with Space Exploration Technologies (SpaceX) of El Segundo, Calif., and Rocketplane-Kistler (RpK) of Oklahoma City to develop and demonstrate the vehicles, systems, and operations needed to support a human facility such as ISS. Once the space shuttle is retired, NASA hopes to become just one of many customers for a new, out-of-this-world parcel service.

But NASA said the partners will be paid only if they succeed. Payments will be incremental and based upon the partners' progress against a schedule of performance milestones contained in each Space Act agreement. The agreements were tailored to the individual partners and negotiated before partnership selections were made. NASA will gauge progress through site visits and milestone achievements.

Usually, the space agency issues detailed requirements and specifications for its flight hardware and it takes ownership of any vehicles and associated infrastructure that a contractor produces. For COTS, NASA specified only high level goals and objectives instead of detailed requirements where possible, and left its industry partners responsible for decisions about design, development, certification and operation of the transportation system. Because NASA has a limited amount of money to invest, it encouraged the partners to obtain private financing for



The missions are scheduled to occur in the late 2008 to 2009 time period and will culminate in demonstrating delivery of cargo to the ISS and safe return of cargo to Earth

their projects and it left them free to market the new space transportation services to others.

This model for pursuing of commercial space services is another first for NASA and a reflection on the growing maturing of commercial space capabilities.

“This is not a traditional NASA procurement or program. We could change the economics of space flight with this,” said Lindenmoyer, whose office oversees COTS. NASA expects use of this model to increase over time as the exploration program unfolds, potentially extending to the provision of power, communications, and habitation facilities by commercial entities.

Limited resources and the space shuttle's pending retirement created the need for the new service, and the emergence of enabling technology has created a favorable environment for COTS development, according to Timm. Industry interest was keen, with nearly 100 companies submitting expressions of interest and 20 companies submitting initial proposals.

NASA expects that purchasing commercial space transportation services will be more economical than developing government systems of comparable capability. This could free up additional resources for lunar missions and other activities beyond low-Earth orbit.

Sea Launch's Zenit Rocket Successfully Launches Koreasat 5 Satellite

LONG BEACH, Calif. — Sea Launch Company successfully delivered last August 21 the Koreasat 5 communications satellite to geosynchronous transfer orbit (GTO). Early data indicate the spacecraft is accurately positioned and in excellent condition.

A Zenit-3SL vehicle lifted off at 8:27 pm PDT (03:27 GMT, Aug. 22) from the Odyssey Launch Platform, positioned at 154 degrees West Longitude in the equatorial Pacific. All systems performed nominally throughout flight. The Block DM upper stage inserted the 4,448 kg (9,806 lb) Spacebus 4000 C1 platform to GTO, on its way to a final orbital position of 113 degrees East Longitude.

INDUSTRY NEWS



A Sea Launch Zenit-3SL rocket lifts off from the Odyssey Launch Platform at 8:27 pm PDT, Monday, successfully launching Koreasat 5 satellite. (Sea Launch photo)

Sea Launch said a ground station at Fucino, Italy, acquired the first signal from the satellite shortly after spacecraft separation.

Built by Alcatel Alenia Space in Cannes, France, the hybrid spacecraft carries 36 active transponders in multi-band frequencies. Koreasat 5 is owned jointly by the Agency for Defense Development of Korea and KT Corp.. The Agency for Defense Development has managed the military side of the Koreasat 5 program and the Joint Chief of Staff of Korean Armed Forces will operate SHF and Ka-band transponders on the spacecraft to provide satellite communications services.

KT Corporation will operate 24 Ku-band transponders. Half of these will be capable of switching to regional beams to provide advanced broadband multimedia and digital television transmission services, as well as conventional telecom services to operators in the Asia-Pacific region. The remaining 12 Ku-band transponders will replace Koreasat 2 capacity for domestic use in South Korea. While Koreasat 5 is designed for a 15-year lifespan, Sea Launch's direct insertion into equatorial orbit is expected to yield additional years of fuel life.

Ariane 5 Successfully Delivers JCSAT-10 and Syracuse 3B to Orbit

KOUROU, French Guiana — Arianespace's Ariane 5 rocket successfully delivered on August 11, Japan's JCSAT-10 telecommunications spacecraft and the European Syracuse 3B secure military relay platform into geostationary transfer orbit. Lift-off occurred at 7:15 p.m. from Europe's Spaceport in French Guiana (6:15 p.m. EDT) from Europe's Spaceport in French Guiana.

JCSAT-10 was installed in the upper payload position on Ariane 5, and was released approximately 27 min. into the mission. This was followed some 5 minutes later by the separation of

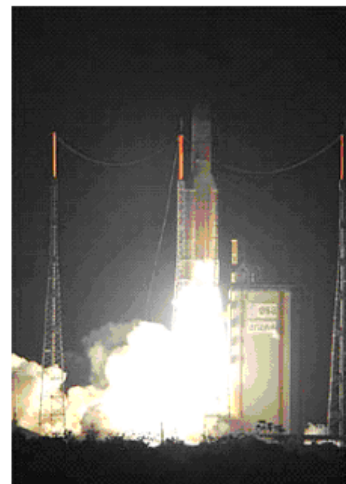
Syracuse 3B, which occupied the lower slot in the payload "stack."

Arianespace has now launched a total of 237 satellites during the past 26 years – which, by far, is a world record, said Arianespace chief executive officer Jean-Yves Le Gall in post-launch comments at the Spaceport's Jupiter control center. Arianespace said the successful launch marks Ariane 5's 14th consecutive success.

Le Gall noted that JCSAT-10 is the sixth satellite entrusted by Japan's JSAT Corporation to Arianespace for launch. It follows the recent orbiting of JCSAT-9 within the framework of the Launch Services Alliance mission industrial grouping – in which Arianespace is a founding member.

JCSAT-10's liftoff mass was approximately 4,050 kg. and it will be operated from an orbital slot of 128 deg. East to provide fixed satellite services (FSS) for Japan, the Asia-Pacific region and Hawaii. Based on Lockheed Martin's A2100AX satellite bus, JCSAT-10 is a high-power hybrid satellite consisting of 30 active Ku-band transponders and 12 active C-band transponders. JCSAT-10 is designed for a minimum service life of 15 years.

Lockheed said the A2100's modular design features a reduction in parts, simplified construction, increased on-orbit reliability and reduced weight and cost.



An Ariane 5 clears the launch tower as it climbs out under the power of its Vulcain main engine and its two solid rocket motors. Liftoff was made at the start of a 37 minute launch window, and the Ariane 5 went on to deploy the JCSAT-10 and Syracuse 3B satellites in a highly accurate geostationary transfer orbit. (Arianespace/CNES/ESA photo)

DirecTV, EchoStar Joint Venture Bows out of Spectrum Auction

WASHINGTON, D.C. — Wireless DBS LLC, a joint venture

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of satellite TV providers DirecTV Group and EchoStar Communications, pulled out on August 16 from the Federal Communications Commission auction for licenses to deliver advanced wireless services.

Securing a \$972.5 million war chest, Wireless DBS emerged as the top bidder when the auction began last August 9 by offering \$282.5 million for 13 licenses. But early this week, as the bidding war progressed, Wireless DBS began scaling back its bids and withdrew altogether.

T-Mobile now leads the auction, putting \$3.04 billion on the line, after 20 rounds of bidding. FCC said its spectrum auction has hit \$10.27 billion in total bids, still within the \$8 billion to \$15 billion range that industry observers had predicted.

Deutsche Telekom's T-Mobile, the fourth-largest U.S. wireless carrier, has put up the most money to date, in an effort to add a next-generation data network to its list of services.

FCC said 168 companies were qualified to bid in the auction of Advanced Wireless Services licenses in the 1710-1755 MHz and 2110-2155 MHz bands. Under the bidding rules, the auction for the spectrum will continue until no more bids are submitted, which means it could last several weeks. Since the FCC is actually parceling off 1,122 individual licenses, the auction has a series of different leaders—a list that changes hour to hour as the FCC reports its latest results.

But after one week, many observers believe the price of the licenses has gone too steep for satellite and mobile companies to make money.

Telecom, Media and Finance Associates, Inc. (TMF Associates) consulting firm predicted that the exit of Wireless DBS LLC (a partnership of DirecTV and EchoStar) from the FCC's ongoing AWS spectrum auction will refocus attention on alternative spectrum bands, and particularly on the spectrum allocated to Mobile Satellite Services (MSS) operators.

NASA Awards \$101.7-M NOAA GOES-R Instrument Contract

WASHINGTON, — NASA, in coordination with the National Oceanic and Atmospheric Administration's Geostationary Operational Environmental Satellites (GOES-R) Program, has selected Assurance Technology Corporation for a \$101.7 million dollar contract. This contract is for the Space Environment In-Situ Suite (SEISS), which will provide data for monitoring space environments as an instrument on the next generation of GOES.

NASA said the design and development of the SEISS instruments will be primarily performed at the contractor's facility in Carlisle, Mass. Once launched, the SEISS suite will be used primarily by NOAA's Space Environ-



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ment Center in Boulder, Colo. The center provides real-time monitoring, forecasting and warnings of solar and geophysical events and disturbances.

The contractor will provide the SEISS suite of instruments and post-delivery support for the GOES-R series of weather satellites. The suite consists of three particle sensors: a magnetospheric particle sensor; solar and galactic proton sensor; and an energetic heavy ion sensor. The sensors will provide important information to warn of high-impact space storms and operational information on the radiation environment hazardous to humans in space, high-altitude aircraft, spacecraft electronics, solar power systems and radio communications.

GOES is funded, operated and managed by NOAA. NASA's Goddard Space Flight Center, Greenbelt, Md., manages the acquisition of GOES-R instruments for NOAA.

ATK Receives \$90-M Order for Orion Motors for Missile Defense and Commercial Satellite Launch Vehicles

MINNEAPOLIS, — Alliant Techsystems has received a \$90 million contract to provide first, second, and third stage Orion solid rocket motors to Orbital Sciences Corporation (NYSE:ORB) for use in a variety of launch platforms including the nation's Ground-based Missile Defense (GMD) program.

ATK said its Launch Systems Group will perform the work at its manufacturing facilities in Utah. Production will run through February 2009.

ATK first produced Orion solid rocket motors in 1990 for Orbital's Pegasus launch vehicle, the first air-launched rocket to place satellites into orbit. Most recently, Orion motors were installed at Ft. Greely, Alaska and Vandenberg AFB, California.

ATK said these motors have proven their flexibility on multiple programs as they have been modified for use in a variety of launch vehicles, including Taurus, Pegasus XL, Minotaur, and Hyper-X.

Arrowhead to Provide DoD with Portable Satellite Terminals Under a Five-Year \$53-M Program

FALLS CHURCH, Va. — The U.S. Space and Naval Warfare Systems Center (SPAWAR) in Charleston, South Carolina has

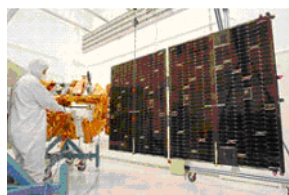
awarded Arrowhead Global Solutions an indefinite- delivery/ indefinite-quantity contract for portable satellite communications (SATCOM) terminals.

Arrowhead said it is one of eight companies selected for the program to provide equipment and services designed to increase the effectiveness of communications for U.S. and coalition forces. The period of performance includes a one-year base and four one-year option periods.

According to Arrowhead, work on the SPAWAR contract will begin immediately, and providing all options are exercised, the contract will continue until July 2011. The total value of all delivery orders awarded over the life of the contract is estimated to be \$52.6 million.

"By providing the U.S. Navy and other government customers with the best possible commercial satellite solutions we are continuing our tradition of quality solutions and service that began for Arrowhead 16 years ago," said the company's founder and chairman, Mary Ann Elliott.

Arrowhead said that among the eight awardees, Arrowhead was the only company authorized to provide Satellite Communications equipment in all four specified areas: #1 — Deployable Multi-Satellite Terminals (Less than 1.0 M); #2 — Deployable Multi-Satellite Terminals (1.2 M); #3 — Satellite Simulators; and #4 — Integrated Generator/Environmental Control Units.



A Ball Aerospace technician checks the alignment of the solar arrays on the NextSat spacecraft for the Orbital Express Program. The spacecraft, which was delivered to Boeing on Aug. 18, is designed to demonstrate robotic satellite servicing when launched later this year. (Ball Aerospace photo)

Aerospace photo)

generation OE spacecraft furthers the development of robotic

Ball Aerospace Delivers Orbital Express NextSat Spacecraft

BOULDER, Colo. — Ball Aerospace & Technologies Corp. has delivered the NextSat Commodities Spacecraft (NextSat/CSC) to Boeing Company's Orbital Express (OE) program for the Defense Advanced Research Projects Agency (DARPA). Scheduled to launch late this year, OE is designed to demonstrate technological readiness of autonomous satellite servicing.

"On-schedule delivery of the next-generation OE spacecraft furthers the development of robotic

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refueling, configuration and repair of spacecraft on orbit,” said David L. Taylor, president and chief executive officer of Ball Aerospace.

Ball Aerospace said the satellite demonstration mission is set to conduct the first autonomous component exchange and first U.S. refueling, as well as autonomous rendezvous and docking. The dual-satellite mission includes the Autonomous Space Transfer and Robotic Orbiter, or ASTRO, built by the Boeing, and NextSat/CSC, launched in a “stacked” or mated flight configuration.

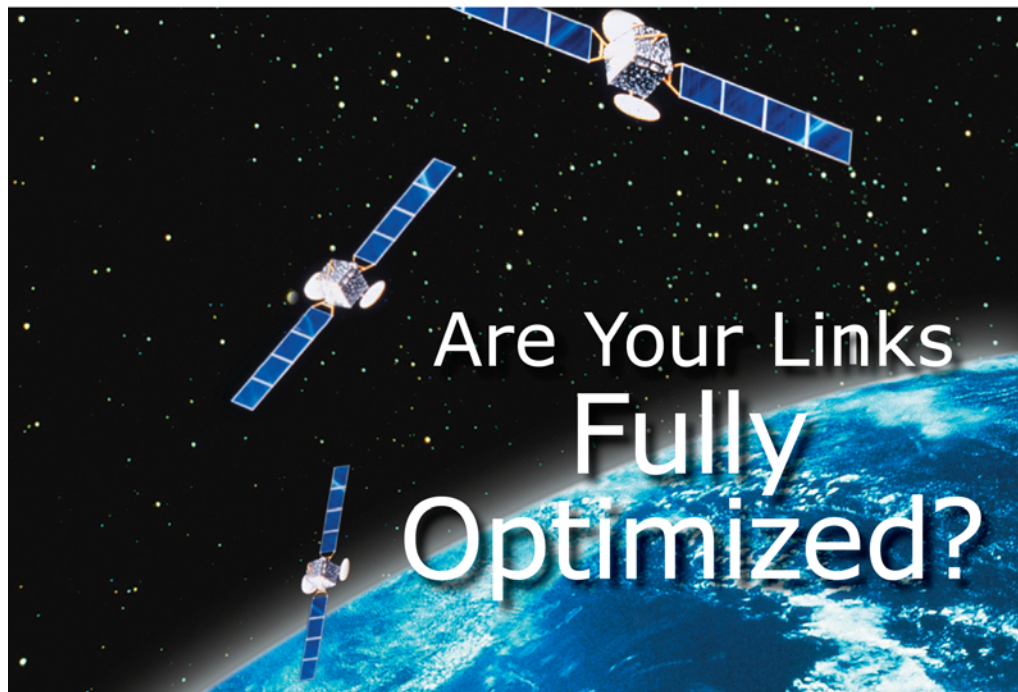
The two spacecraft are designed to transfer between them spacecraft fuel and an Orbital Replacement Unit containing a back-up battery. Later in the three-month mission, the two spacecraft are scheduled to separate and demonstrate a rendezvous and capture sequence.

Ball Aerospace said the NextSat/CSC has a dual role in the Orbital Express mission. It will emulate the ‘client’ spacecraft needing service, and as the ‘commodities’ spacecraft. In an active spacecraft constellation the commodities spacecraft would be an orbiting depot storing fuel and replacement or upgraded spacecraft components.

Boeing Completes GOES-P Weather Satellite Thermal Vacuum Testing

ST. LOUIS — Boeing has announced that GOES-P, the third of three Geostationary Operational Environmental Satellites (GOES) built for NASA and the National Oceanic and Atmospheric Administration (NOAA), has successfully completed testing designed to ensure that the spacecraft will operate in the extremely harsh environs of space.

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EXECUTIVE MOVES

Orbital Names Carl Marchetto Executive Vice President and General Manager of Its Space Systems Group



Carl A. Marchetto

DULLES, Va. — Carl A. Marchetto was named last August 23 by Orbital Sciences Corporation as the new executive vice president and general manager of its largest business unit, the Space Systems Group.

Marchetto will assume his new post in early September, succeeding the current group head, Jack M. Danko, who is transitioning into semi-retirement after nearly 20 years of distinguished service with Orbital and predecessor companies. Danko will continue his

tenure with Orbital as an advisor to the company's executive management team to ensure a smooth transition of leadership and continue to assist with current operations and future growth in the company's space technical services business.

Marchetto comes to Orbital from Eastman Kodak Company, where he most recently served as corporate Senior Vice President and Chief Operating Officer of the Digital and Film Imaging Systems business unit, a \$9.2 billion enterprise with 11,000 employees. While at Kodak, he also led the Commercial and Government Systems group that included satellite-based imaging systems for commercial and government space programs, which quadrupled its sales over the last five years.

Prior to his 10 years at Eastman Kodak, Marchetto spent six years at Lockheed Martin Corporation's Astro Space Division, where he was Program Director for the GE-1 commercial communications spacecraft and Products Director for Lockheed Martin's A2100 satellite product line. He also spent 11 years at the Jet Propulsion Laboratory where he worked as an engineering manager on various NASA planetary exploration and Earth-observing space missions.

Marchetto, 51, holds a M.S. degree in Mechanical Engineering from California State University and a B.S. degree in Engineering from Stevens Institute of Technology. He has also com-

pleted the post-graduate Engineering-Management Program at California Institute of Technology.

L-3 Communications Promotions

NEW YORK — L-3 Communications has promoted four of its management executives. General (Retired) Jimmie V. Adams, vice president of Washington Operations, Robert W. Drewes, corporate vice president and president and chief operating officer of the L-3 Integrated Systems Group, General (Retired) Robert W. RisCassi, corporate vice president, and General (Retired) Carl E. Vuono, president and chief operating officer of L-3's Government Services Group, have each been promoted to the position of corporate senior vice president. They will also retain their current roles within L-3.

General Adams currently leads L-3's Washington Operations organization. Prior to joining L-3 in 1997, he served as vice president of Lockheed Martin's Washington Operations for the C3I and Systems Integration Sector and he was a vice president and officer of Loral Corporation at the time of its acquisition by Lockheed Martin in 1996.

Before joining Loral in 1993, General Adams was commander in chief, Pacific Air Forces, Hickam Air Force Base, Hawaii, capping a 35-year career with the U.S. Air Force. He has also held positions as deputy chief of staff for plans and operation for the U.S. Air Force headquarters, vice commander of Headquarters Tactical Air Command, and vice commander in chief of the U.S. Air Forces Atlantic at Langley Air Force Base. General Adams is also a command pilot with more than 141 combat missions.

Drewes currently leads the L-3 Integrated Systems Group. He joined L-3 as president of its Integrated Systems division in 2002 when L-3 purchased that division from Raytheon Company. He also led that business under Raytheon beginning in 2001. Prior to that, Drewes was vice president of Productivity for Raytheon. He retired from a 33-year career in the U.S. Air Force in 1997 with the rank of Major General.

General RisCassi is based in L-3's Washington Operations office and has been with L-3 since 1997. He was previously vice president of Land Systems for Lockheed Martin's C3I and Systems Integration Sector and held the same position for Loral, prior to its acquisition by Lockheed Martin. General RisCassi joined Loral in 1993 after retiring as U.S. Army commander in chief, United Nations Command/Korea.

EXECUTIVE MOVES

General Vuono currently leads L-3's Government Services Group. Upon retiring from active service in 1993, General Vuono joined MPRI, a professional services and training company which was acquired by L-3 in 2000. He assumed the position of MPRI president in January of 1999. General Vuono has served in a variety of command and staff positions, including duty in joint and allied assignments.

MSV Appoints Vijay Venkateswaran Vice President of Services Development & Management

RESTON, Va. — Mobile Satellite Ventures (MSV) has named Vijay Venkateswaran as vice president of Services Development and Management. Venkateswaran will report to Jack Dziak, senior vice president of Services and Distribution, and will assist in the formulation of MSV's next generation services strategy and portfolio development, and managing their services lifecycle.

Prior to joining MSV, Venkateswaran was director of New Value Added Services Innovation and Development at Verizon's Broadband Solutions Group. In this role, he was responsible for creating and executing Verizon's strategy, product development and management for new, digital value-added services for consumer and small business markets, including online games, Internet security, networked storage, online movies and digital music, as well as the creation of new e-Commerce systems and operational capabilities for driving new incremental revenues from digital, value-added services.

Prior to joining Verizon, Venkateswaran was a senior manager at Accenture (formerly Andersen Consulting), serving in the Communications and High Tech vertical market unit. During his nine year tenure at the firm, he served a broad range of clients in the communications, high tech, data services, and software markets, in a variety of areas including: wireless/mobility, broadband services, information technology and data networking services.

Venkateswaran holds a Masters of Business Administration from the Darden School of Business

at the University of Virginia, and both a Master's degree and Bachelor's degree in Electrical Engineering from the University of Virginia and George Mason University, respectively.

XM's Hugh Panero Resigns from Vonage

HOLMDEL, N.J. — Vonage Holdings Corp. has announced that Hugh Panero, chief executive officer of XM Satellite



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Hugh Panero

Radio, has resigned from the Vonage Board, effective August 18, 2006, citing the demands of his role at XM for his decision.

“Hugh will be missed on the Board, we wish him well and we thank him for his contributions,” said Jeffrey Citron, Chairman and Chief Strategist, Vonage Holdings Corp. At this time, the Vonage Board has no plans to fill Mr. Panero’s Board seat.

Vonage is a provider of broadband telephone services with over 1.8 million subscriber lines as of June 30, 2006. Its technology enables anyone to make and receive phone calls with a touch tone telephone almost anywhere a broadband Internet connection is available.

DigitalGlobe Appoints Marc Tremblay as GM of Commercial Business Unit, Steve Larned as Chief Marketing Officer



Marc Tremblay

LONGMONT, Colo. — DigitalGlobe has appointed Marc Tremblay as General Manager of DigitalGlobe’s Commercial Business Unit, where he will be responsible for the management of global commercial sales via direct, channel and web distribution.

Steve Larned has also been appointed chief marketing officer for the company. In this role, Larned will oversee worldwide marketing, product management, and strategy development and execution. Tremblay and Larned will report directly to Jill Smith, Chief Executive Officer of DigitalGlobe.

Tremblay most recently worked as Vice President of business development and product management for Z Corporation, maker of the world’s fastest, multi-color 3D printers, used in a broad range of applications including GIS. Prior to Z Corporation, Tremblay was President and CEO of Syncline, Inc, a provider of ASP solutions and standards-based GIS Web

Services that help businesses and government function more efficiently and intelligently by providing easy access to their geospatial data holdings.

Before joining Syncline, Tremblay was vice president of Engineering and Operations at Virtual Technologies. Tremblay received a bachelor’s degree in mechanical engineering from the University of Ottawa, a master’s and a doctorate degree in mechanical engineering from Stanford University, and a master’s degree in business administration from Harvard University.

Prior to joining Dell, Larned spent more than ten years at Bain & Company, a global strategy consulting firm. As a consultant for Bain, he developed and helped implement growth and turnaround strategies across a variety of consumer and industrial client businesses. Larned earned a bachelor’s degree in economics from Duke University and a master’s in business administration from Harvard University.

Joseph C. Homko Named President of L-3 Communications’ KDI Precision Products

NEW YORK — L-3 Communications has appointed Joseph C. Homko president of L-3’s KDI Precision Products (KDI) subsidiary. In addition to this new position, Homko will maintain his role as president of L-3 Communications’ BT Fuze Products (BT Fuze) division. With this new position, Homko will now oversee L-3’s KDI operations, as well as those of BT Fuze. At KDI, Homko succeeds Eric Guerazzi, who has left the company to pursue other opportunities.

Homko will continue to report to James Dunn, president and chief operating officer of L-3’s Sensors and Simulation Group and he will be headquartered at the BT Fuze facility in Lancaster, PA. Homko will also support Dunn in new business pursuits and he will coordinate capabilities across L-3’s fuze and navigation product lines and divisions.

Homko, age 50, joined L-3 Communications in 2000 as president of BT Fuze. Prior to becoming president of BT Fuze, he served as vice president of operations for Bulova Technologies. He has over 25 years of experience in the manufacture of military ordnance with senior-level responsibilities in manufacturing, systems engineering and engineering management.

EXECUTIVE MOVES

Homko played a key role in the management and delivery of 120mm tank ammunition for Desert Storm. He has also been responsible for the delivery of highly successful M762A1/M767A1 electronic time fuzes for artillery, as well as for BT Fuze's entry into program systems management with the win of 105mm ammunition for the U.S. Army's Stryker vehicle, and most recently for the first systems contract for M67 Hand Grenade.

Homko graduated from Virginia Tech/National Louis University with a degree in Business Management in 1993. Homko also has affiliations with the U.S. Army Picatinny Arsenal Commanders Industrial Advisory Council and the Munitions

Industrial Base Lobby Group, as well as the National Defense Industrial Association, and the National Infantry Association.

Alvin B. Krongard, Former Investment Banking and CIA Veteran, Joins Iridium Satellite Board

BETHESDA, Md. — Alvin B. ("Buzzy") Krongard, the former CEO and chairman of the board of Alex.Brown Incorporated, the nation's oldest investment banking firm, has joined the Iridium Satellite Board of Directors.

Krongard served as vice chairman of the board of Bankers Trust, in addition to holding other financial industry posts. He also served as co-chair to the director of the U.S. Central

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Satellite Market Recovers in 2005 But Strategic Issues Should Be Addressed to Assure Continued Growth, Says New Report

LONDON — After three years of stagnation for satellite capacity demand, 2005 saw a recovery that resulted in a revenue growth of 6 percent for the infrastructure business of the Fixed Satellite Services (FSS) industry. In parallel, the provision of value added services by FSS satellite operators continued to grow, both organically and through selected acquisitions.

According to the *World Satellite Communications & Broadcasting Markets Survey* report, revenues of the FSS industry totaled \$7.6 billion in 2005, of which 6.6 percent deriving from service provision. Demand was driven by the takeoff of a number of applications such as high definition TV, the continuous progress of standard digital pay-TV and bandwidth requirements for military communications and private corporate networks. Of the 4,535 transponders in service in 2005, 57 percent were for TV broadcasting services and 28 percent in North America.

Euroconsult said its latest 300-page research report is designed as a ready-to-use tool for making investment decisions in the FSS industry, with a comprehensive study of all satellite communications and broadcasting markets worldwide. It also includes market forecasts up to 2015 and provides an understanding of current market conditions and the most extensive analysis of market trends and forecasts for the coming ten years.

New KVH TracVision A7 Brings Live DirecTV Service to Automobiles

MIDDLETOWN, R.I. — KVH Industries, Inc. is changing the face of in-car entertainment again with the launch of the new TracVision(R) A7 mobile satellite TV system. Now, travelers across the continental United States are able to enjoy in-motion reception of up to 185 channels of DirecTV service plus broadcast networks like ABC, CBS, FOX, NBC, and PBS via local TV affiliates - a first in the mobile entertainment and automotive industries.

KVH said the 5-inch high TracVision A7 offers a home entertainment experience in the vehicle, delivering DIRECTV's all-digital programming service, stereo sound, and an unmatched variety of live content directly on in-car video screens.

"The TracVision A7 sets a new standard for in-car entertainment, provides an outstanding solution to the growing demand for passenger entertainment and makes TV as mobile as our customers," explained Martin Kits van Heyningen, KVH's president and chief executive officer.

"We are taking live automotive entertainment even farther by bringing consumers mobile access to local TV channels thanks to TracVision A7's integrated GPS and an exclusive 12V mobile receiver that we developed in close cooperation with DirecTV."

Passengers in TracVision A7-equipped cars enjoy all of the benefits of their favorite DirecTV programming, as well as local news, weather, sports, and traffic reports and their favorite national network programming."

iDirect Unveils Spread Spectrum-Enabled Communications-on-the-Move Solution

HERNDON, Va. — iDirect Technologies (iDirect), a company of Vision Technologies Systems Inc., announced on August 18 the launch of their new spread spectrum technology that allows the iDirect platform to enable broadband communications on the move (COTM) over satellite.

iDirect said this technology is designed for military or commercial applications on land, sea or air and represents the first integrated COTM solution industry wide that can be configured to provide star, mesh, SCPC and/or TRANSEC capabilities with the same remote.

Spread spectrum technology allows for the implementation of small antennas by mitigating issues associated with spectral density. The net result is a mobile broadband communications network that can provide downstream speeds up to 18 Mbps to any location, in any environment, while end users are on the move.

iDirect is recognized for providing IP based satellite hardware. iDirect's TDMA platform and global Network Management System (NMS) are ideally suited to support mobile applications in diverse conditions and locations. The global NMS allows end users to tune wave forms, providing varying degrees of spectral density to satisfy physical conditions and/or anti-jam requirements.

NEW PRODUCTS

Loral Skynet Taps Allot to Support Satellite-Based Business Continuity Solutions

MINNEAPOLIS — Loral Skynet is using Allot Communications' NetEnforcer AC-400 bandwidth management device to help it safeguard critical information and network performance in the event of natural disasters or everyday outages.

Loral Skynet, a global communications provider, has developed SkyReach Ensure, a business continuity suite, allowing business, government agency and service provider customers to decrease the potential for network downtime. Allot Communications, a leader in intelligent IP service optimization solutions based on deep packet inspection (DPI).

Through a network of geosynchronous satellites and high-speed terrestrial fiber, Loral Skynet transports high-quality data, voice and video content for television programming, telephony, business communications, high-quality audio, broadband and Internet connectivity. In the event of a ground disaster, Loral Skynet can seamlessly transfer IP-data traffic to its satellite connections, without compromising network performance.

Loral Skynet manages network traffic for over 400 companies. As part of the company's offering, it guarantees that any contingency network will be sized to meet the bandwidth that customers need, when they need it. In addition, Loral Skynet provides options for dedicated usage, dynamic usage or volume-based billing so that customers only pay for what they use.

"To guarantee bandwidth availability, we needed to be able to prioritize traffic and shape traffic flows on the network in real-time," said Patrick Brant, president of Loral Skynet. He said NetEnforcer AC-400 offers the ability to shape traffic so that customers involved in an outage can immediately have access to the level of bandwidth they require to maintain operations.

C-COM Unveils High-End Mobile Antenna

OTTAWA, ONTARIO — C-COM Satellite Systems Inc. has announced the availability of its latest iNetVu Mobile antenna platform aimed at markets requiring high broadband speeds over satellite.

The new iNetVu 1800 was designed for use by the military, government agencies, as well as for newscasting and other vertical markets, where mobility and ability to deliver high broadband speeds over satellite is required.

C-COM said iNetVu 1800 Mobile is capable of operating in the Ku, C and X-band frequency ranges and is field reconfigurable to these transmission modes within minutes.

"The military and satellite news gathering markets represent especially large opportunities for the iNetVu 1800 as both of these market segments are rapidly adapting to the availability of cost-effective mobile satellite based broadband solutions," said Leslie Klein, president and CEO of C-COM.

She added users of the iNetVu 1800 Mobile platforms will be able to automatically locate their satellite of choice from a



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Radyne Troposcatter Modems Break New Record

PHOENIX — Radyne Corporation has announced that it has reached another milestone and industry-first in troposcatter communications by successfully participating in a demonstration verifying the ability of a troposcatter system to achieve 40 Mbps “over-the-horizon” communications using its TM-20 troposcatter modems.

The actual over-the-horizon test was performed as part of a series of tests conducted with a military/government organization.

This new industry-first troposcatter link doubles the company’s previous milestone of 20 Mbps and dramatically surpasses the maximum data rates of 16 Mbps being utilized today.

“The ability to push 40 Mbps over the horizon is a significant achievement in troposcatter communications. These data rates will enable military and commercial customers to easily exchange broadband information and enable applications that were previously unavailable to users of troposcatter systems,” said Bob Fitting, Radyne’s CEO.

The TM-20 represents the first significant advance in over-the-horizon technology in almost three decades. The use of modern signal processing techniques and a patented channel-directed-equalizer provides for link performance and configuration flexibility previously unheard of in Troposcatter systems. The TM-20’s compact and power conserving design is ideal

Hughes Introduces Integrated LMDS/ATM Multiplexer for 3G Cellular

GERMANTOWN, Md. — Hughes Network Systems, LLC has introduced a new version of its AB9000 LMDS system. Designed for the most cost-effective backhaul of high-density 3G cellular traffic, the newly released version incorporates an 8-port STM-1 ATM multiplexer built into the LMDS hub station, eliminating the need for a stand-alone ATM switch at the base station.

“3G operators can now significantly reduce the cost of connecting 3G cell sites. By integrating a small ATM mux into our field-proven 26GHz hub radio, not only is the overall footprint and power consumption reduced; it also simplifies network management by integrating provisioning of the ATM mux and LMDS hub station in the same network management system,” said Thomas Hsu, senior vice president of the Terrestrial Microwave division at Hughes.

Bhanu Durvasula, assistant vice president of engineering for the TM division, said in most cellular networks, a separate ATM switch at certain hub/traffic points is required to concentrate cell site traffic from microwave or LMDS links and route it into the ATM core.

“Our new integrated AB9000 eliminates the need for this separate ATM switch, performing the grooming and concentration functions within an LMDS hub station, in addition to redundancy protection and re-routing functions,” added Durvasula.

Topcon Expands GPS+, Unveils All-Inclusive GNSS Receiver

LIVERMORE, Calif. — Topcon Positioning Systems, a developer and manufacturer of positioning equipment, has introduced its new GR-3 system, which it claims is the world’s first all-inclusive RTK GNSS satellite receiver for all existing and planned satellite constellations.

In 2005, Topcon introduced the G3 chip, which can capture signals from all three satellite-positioning systems—GPS, GLONASS, and the planned European Union’s Galileo system—providing enhanced GPS+ technology for the new GR-3.

Topcon said the new GR-3 sets a new standard for rugged construction and unparalleled durability: it is designed to withstand a fall on a range pole (two-meters) and comes with a “bulletproof” warranty to back it up.

Jamie Williamson, senior vice president for sales and marketing, said, GR-3 has a rugged magnesium I-beam chassis and housing that can withstand a two-meter drop onto concrete.

“The GR-3’s unprecedented toughness combined with its all-inclusive satellite tracking capabilities means it is quite possibly the last geodetic receiver a user will ever need,” he said.

GR-3 has 72 universal channels that can track up to 36 satellites

NEW PRODUCTS

simultaneously...all positioning satellites, generating any signal, any time, 24/7. Topcon engineers developed the G3 chip to receive all existing signals, plus all signals from planned satellite launches in the foreseeable future.

SIA Launches Guide to Satellite Communications for Public Safety/Emergency Preparedness Community

ORLANDO, FL — The Satellite Industry Association (SIA) has released a new publication touting the critical importance of satellites as a component of emergency and disaster communications solutions and the unique resource satellites bring to the field of public safety communications.

SIA's "First Responder's Guide to Satellite Communications" is

a comprehensive overview and tutorial of satellite technology and its role in response to natural or man-made disasters. The Guide contains an overview of satellite communications capabilities; voice, video and data applications; equipment overviews, and basic, easy-to-follow steps for connecting with a satellite through various types of terminals. A glossary of frequencies, terms and definitions takes the mystery out of the technology for first time users.

At the 72nd Association of Public-Safety Communications Officials (APCO) International Conference and Exposition on Wednesday, SIA executive director David Cavossa said the Guide hopes to highlight the critical role satellite communications have played and will continue to play when terrestrial networks fail for whatever reason. **SM**

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SES Global: Are happy days here again?

By Chris Forrester

Six months ago the financial community found SES Global's then results tough to swallow. They grumbled about low operating margins especially on newly emerging value-added services. They moaned ("clumsy" said one banker) about the end-of-year presentation, and even hinted that key targets were being missed. At the same time there were considerable concerns over the state of its European division SES Astra's 'Project Dolphin' strategy for German free-to-air listeners. 'Dolphin' has since generated acres of generally negative press for SES, of which more in a moment. None of this has done any favours for SES' stock price, which has slipped down over the past half-year from €5 to barely €0, while arch-rival Eutelsat has – especially during August – recovered its stock price and share value of near-€2.50.

SES Global's latest set of results, delivered on Aug 7 for the half-year to June 30, were agreeably different, although in my view SES' basic metrics have not changed over the past half-year. Its most dramatic news announced was the prediction that with 19 high-def channels already on air over Europe on Astra, SES is now prepared to forecast that by 2010 it will carry more than 100 European high-def channels. Every one of them represents a major slice of fresh bandwidth, and commensurate income. Its previous best estimate for achieving a 100-channel target was four years later, at 2014.

In fact the company's performance



is rock-solid, with spectacular back-up contracts (€6.7bn), and this half-year's set of headline numbers (revenues up 16.6%, EBITDA up 14.1%, net profit up 28.6%, and EPS up a remarkable 35.4%) that can only be described as impressive. Earlier this year SES Global bought New Skies Satellite, and even if the now consolidated New Skies numbers are stripped out, the core revenue performance remains – by any measure – strong, at 8.1% up on last year “and without any funny business in the numbers” stressed CFO Mark Rigolle.

The market seemed to agree. Deutsche Bank, in a note, said SES Global's numbers were above expectations. UBS also took the view that results were better than expected, and

mentioning Rigolle's guidance that its full-year EBITDA results will improve from €900-920m to €1020-1045m, albeit helped by some earlier than expected sales of certain transponders to Star One later this year.

SES Global's CEO Romain Bausch said SES saw satellite capacity demand as strong (74% overall transponder utilisation) and had exceeded expectations, except for the Far East, where fresh orders at its AsiaSat joint-venture remained sluggish. New Skies performance was ahead of plan, said Bausch, and organic growth continued across the group, from governmental contracts as well as core satellite business in North America and EMEA. SES' overall 74% utilisation is lower than Eutelsat, but

COVER STORY

Key Events	What' Involved	When
Broadcaster signature	Private broadcasters join the platform	RTL Germany and MTV Networks announced, negotiations with other private broadcasters underway
Set-top-box available	Distribution of set-top-boxes by manufacturers to retail channels in preparation for launch	Planned for Q4 2006
Service launch	Customer Relationship Management (CRM) infrastructure for customer registration, distribution of smart cards, start of encrypted broadcasts alongside current unencrypted and analogue signals	Planned for Q1/Q2 2007
Encryption	Phased switch-off of unencrypted signal of broadcast customer of Dolphin. During first 12 months post encryption, simulcast of encrypted and unencrypted signals expected	Timing set by broadcasters, expected between Q3 2007 and Q2 2008 for start of encryption and 12 months simulcast period
Analogue switch-off	Switch-off. of analogue satellite broadcast signals	Expected between 2010 and 2012

excluding New Skies its 'in use' transponder manifest grew by 33 (up 6%) to 582 filled transponders during the half-year. Moreover, confidence at SES is undoubtedly high. New capacity on order will add 240 new transponders between now and Q1/2009. Of course, strip out SES Americom from the data and Astra's European transponder utilisation leaps to 84% (239 out of 286 transponders), with the overall average held back by Americom's 69% utilisation, but again its North American demand is enjoying a healthy order book and growing governmental demand.

There was more good news. Bausch told analysts that SES Global's strategy was "unchained", with its primary focus being on core satellite infrastructure. Earlier in August SES Global's main Board had approved procurement of another pair of satellites (Astra 3B and New Skies' NSS-9) on top of a heavy satellite-building programme

SES' European HDTV dividend

Amidst a wholly positive set of numbers, it was SES Astra's improved position on HDTV channels that impressed us. Six months ago Astra reckoned that it would take around 9 years to hit the 100 HD channels European target. That's changed, and how. Bausch said that with 19 high-def channels already on air over Europe (rival Eutelsat has 8 commercial HD channels on air) and fresh HD contracts in place from many of Europe's leading broadcasters, Astra is now relaxed enough to predict it will reach the 100 HD-channel milestone in barely 40 months. That's seriously impressive, but helped by a ground-swell of consumer support for HDTV, with more than 5m 'HD Ready' sets already sold in Europe, and those numbers showing no sign of slowing. This "100 channel" HD target will help ameliorate the still heavy dependence on German analogue channels

averaging 3 new craft a year for the next 3 or 4 years. Bausch said SES was in the middle of a "most dynamic" phase. Astra 1L is due for launch in "early" Q1/2007,

which will allow Astra 2C (currently on station at its mainland Europe 19.2 deg E position) to move to the capacity-starved 'UK' orbital slot at 28.2 deg E,

COVER STORY



and provide some much-needed bandwidth (between 10-16 extra transponders).

SES Global's consolidation phase seems over, with New Skies in place, at least for the moment. "We are not running after acquisitions," Bausch said. "There is nothing concrete on our road map."

The Astra 3B procurement programme will start now, with a mission to provide new capacity at 23.5-24.2 deg E, supplying DTH services, feeds to cable head-ends, extra capacity for two-way satellite broadband, and coverage for and into the Middle East.

Staying in Europe for a moment, Romain Bausch took time to explain the strategy in regard to New Skies Satellite, now renamed SES New Skies. The deal closed on March 30th, and already some \$30m of cost savings has been identified with \$20m set to be achieved next year. SES New Skies now becomes the company's "third pillar", with New Skies taking responsibility for just about all of Americom's and Astra's oceanic

activity. For example, it takes over the AMC-12/Astra 4A (an AOR bird) along with its 72 transponders, as well as the 183 deg East (Pacific Ocean craft), AMC-23 and 38 transponders. New Skies will also look after the sales effort in regard to Astra 2B's steerable beam looking over Africa, and its 8 transponders. NSS-8 is slated for launch in Q4 this year to 57 deg E, adding a massive 92 transponders to SES New Skies fleet (although replacing the smaller NSS-703 craft), and as already mentioned, SES is going ahead with procurement of NSS-9, which will open up a new trans-Atlantic orbital slot for SES at 20 deg West. Meantime, if all goes well with NSS-8 launch later this year then New Skies will relocate NSS-703 to the 20 deg West position And see what business it can bring in.

In terms of modelling guidance for the rest of this year and 2007, CFO Mark Rigolle says infrastructure EBITDA

Digital Satellite as % of Total Satellite*

UK	98%
Ireland	96%
Italy	92%
Netherlands	88%
France	73%
Sweden	72%
Spain	70%
Eur. Aver.	65%
Denmark	41%
Germany	39%
Austria	36%

Data: SES Astra

*at Year End 2005

margins will be around the 78% mark, with New Skies and the now 100% owned ND Satcom business included. Revenues will be "approaching" 10% growth this year, and high "single-digit" Compound Annual Growth Rate for 2007. Six months ago the market looked down its nose at SES' 'services' business, but Rigolle reminded analysts that it had improved its margin in 'services' for the past 6 quarters, and that this will continue.

German channels sign for Dolphin

But as we hinted, there is one potential problem area over Europe, and

SES New Skies orbital plans

NSS-8	Q4-2006 launch, replaces NSS-703
NSS-703	moves to 340 deg E (20 deg W)
NSS-9	Q1/2009? launch, to 183 deg E, replaces NSS-5
NSS-5	moves to 340 deg E in Q2-2009
NSS-703	retired late 2009

Data: SES Global

COVER STORY

SES Provisional 'Dolphin' Plan for Germany

If approved, Bausch says there will be a “technical service fee” of about €5.50 per month (“and significantly less the sum charged by German cable for its similar supply of ‘free’ channels,” which Bausch says is about €2-€5 per month). There will be a ‘one off’ install fee of around €10-€15 including VAT. If the Cartel office rules against SES then Bausch says the invested costs for this year, up to the end of 2006, will be no more than €5m. If the scheme passes the Cartel office’s scrutiny then ‘Dolphin’, always a working name, will be rebranded and launched over Germany. In time Bausch hopes that a paradigm change will affect Germany, and certainly in the 2010-2012 time frame when the market is expected to switch off its analogue transmissions, Bausch says he would expect 80%-90% of German homes to be viewing encrypted signals.

To date, it seems SES has spent about €5m on Project Dolphin, and the bankers say they are a little more relaxed about the scheme despite anticipated “losses” of €0m-€100m over the 2007-2008 period. Indeed, Dresdner Kleinwort reckons that Dolphin could quickly turn into profitability and a speedy value of an additional €1.40 per share.

The SES revenue model for Dolphin is fairly straightforward: SES Astra expects the total number of digital satellite households to continue to rise towards the currently reported number of total satellite households by 2010–2012, when the analogue signal is expected to be switched off (i.e. total digital satellite households post analogue switch off estimated at 16 to 17m after 2012). Dolphin penetration amongst the steadily increasing number of digital satellite households is expected to rise above 20% shortly after signal encryption, continuously increasing hereafter and settling between 80% and 90% of digital satellite households soon after analogue switch-off (when digital satellite households are estimated to equal total satellite households, i.e. 16-17m after 2012). SES rightly says that churn within this new economic model would be modest, and certainly in the low single digit range.

Bausch says Astra/Dolphin will not be providing set-top boxes. Broadcasters might provide incentives, but there will definitely be marketing contributions from broadcasters,



helping fund point-of-sale activity. Astra’s variable costs, as yet unspecified, include funding the cost of smart cards as well as the cost of running CRM and call centres,” all of which will be outsourced” says Astra.

So, the plan is in place. But there’s plenty of opposition. “When a tollbooth is placed even on digital terrestrial platforms, then we have to consider mandating a ‘must free offer’ regulation for certain mass market channels,” said Victor Henle, deputy chairman of the media authorities’ directors committee. He added that the changes proposed by SES Astra and leading broadcasters would “raise regulatory questions and require an open discussion between all parties involved.” Then there’s the regulator. “As monetary issues are involved on the broadcasters’ side, this suggests that we are, in fact, dealing with a cartel agreement,” Cartel Office President Ulf Böge said in a recent interview, adding that the authority suspects that Germany’s two leading commercial television groups RTL and Pro Sieben SAT.1 are closely working together in the planned introduction of satellite reception fees, despite the broadcasters claiming the contrary. “We assume that it is a joint project by the two large broadcasting groups and Astra which would not be admissible under cartel law,” said Böge.

In other words SES has a few major hurdles to overcome. As far as potential revenues are concerned, there’s zero income this year, and losses estimated at €0m-€10m for the first two years combined. By 2009 the Dolphin project is expected to move into positive territory, with EBITDA margins hitting 25%-30% once analogue is switched off. Payback is put at between 4-6 years.

COVER STORY

it revolves around a highly controversial scheme to 'convert' Germany, Europe's largest single market, first to digital TV and then to pay television.

Germany is a hugely challenging market, which has not taken to pay TV. In fact, the German viewing market is still largely watching analogue TV either on cable or satellite. As SES explained in an analysts briefing, Germany (and Austria) represent a terrific marketing opportunity. The UK, Ireland and Italy are now almost 100% digital satellite markets, each with a strong pay-TV operator and where public broadcasters have also embraced satellite TV. Germany, widely cabled as it is, does not have this same recipe for success. There is no single satellite pay-TV provider, and certainly no Rupert Murdoch (who dominates in the UK, Ireland and Italy).

Astra says there's a substantial free-to-air market, mostly in analogue, which is good for SES' revenues but hardly good for long-term growth. Cable doesn't help, with 88.5% of viewers still watching in analogue (11.5% digital). Satellite (almost all from SES Astra) is only a little better (61% analogue, 39% digital), and no major Digital Terrestrial activity to replicate the UK's spectacular 'Freeview' model. It is recognised that satellite is driving the digital message forward, helped by a wider choice of channels and services. Digital TV, said Astra in its presentation, will create huge benefits at all levels, consumer, broadcaster, rights-holders and of course the satellite broadcaster.

- € Digital adds additional and innovative services
- € Ease of use and access to services
- € Addressable customer base
- € DRM benefits
- € New business models



- € Matching digital cable and other IPTV offerings
- € Strengthens SES Astra's position
- € New, branded 'smart' cards
- € Ease of access for Pay-TV
- € Simple migration to HDTV

SES Astra says it has signed contracts with RTL Television (Germany's most important commercial broadcaster) as well as MTV Networks for the use of its new digital infrastructure, dubbed 'Dolphin'. The controversial 'Dolphin' service allows broadcasters to expand their digital line-ups and could also provide pay-per-view and near-video-on-demand channels. There will also be an enhanced electronic programme guide, room for personal video recorders, and a move towards more interactive TV. Subscribers will have to pay a monthly €5.50 (\$3) to access the channels. It seems likely that

many of the basic German channels on the Astra satellites at 19 deg East will encrypt their signals. MTV Networks includes MTV, Viva, Nickelodeon and from next year Comedy Central. RTL's German channels include RTL, VOX, RTL II, Super RTL, n-tv, RTL Shop and Traumpartner TV.

SES Global's Romain Bausch says his Astra staff is talking to other broadcasters, including public broadcasters in Germany, about the planned service. One option might be for pub-casters ARD and ZDF to continue digital transmissions 'in the clear' for the time being on the Dolphin platform (which can support 'clear' and encrypted channels) until such time as they have interactive services, or other services which would benefit from Dolphin's specification.

But, the German Federal cartel office (Bundeskartellamt) is examining two Dolphin elements. The first is to establish whether a cartel has been formed, and this decision is expected soon and probably no later than September, says Bausch. However, the second element will look at the specification of SES Astra's set-top box to determine whether it is really an open and neutral standard, which Astra insists it is. The Cartel of **SM** will likely rule on this aspect by year-end, says Bausch.



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

FEATURE

Satellite-Based Disaster Recovery and Business Continuity on the Rise Across Europe

By Claude Rousseau

There is increasing recognition in Europe that fixed and mobile satellite services offer reliable and ubiquitous access for a variety of client applications in the disaster recovery and business continuity markets. However, these new and emerging markets for satellite depend heavily on customers implementing backup and recovery communications plans. The players active in Europe know this state of affairs, and many have made inroads after European governments started to implement policies and plans for “civil protection” and “continuity of operations” that eventually made their way to private enterprise.

Disaster Recovery Tailored for Satellite in Europe

Satellite products and services for the disaster recovery market assist users to restore and maintain communications links to and from site(s) affected by a natural or man-made disaster in a recovery period ranging from days to years. The awareness of communication needs in times of disasters has reached perhaps an all-time high worldwide with three major events in the last five years: the terrorist attack on the New York World Trade Center in 2001, the devastating Indian Ocean Tsunami in December 2004, and Hurricane Katrina in the summer of 2005. The aftermath was public outcry focusing on the insufficient preparation of response agencies with respect to communications means.



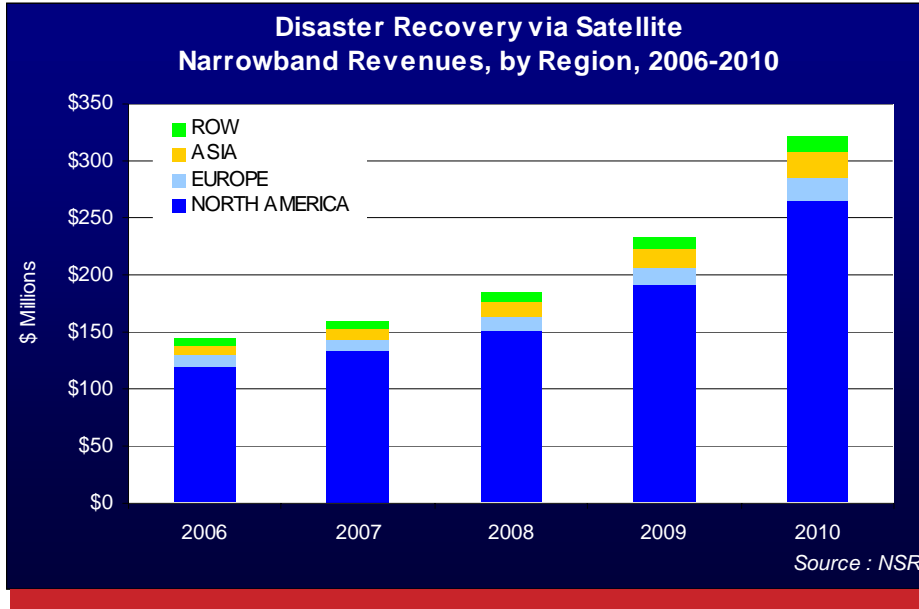
Political moves in Europe have historically been made that show an upward trend in preparedness and planning for recovery and continuity communications solutions. In 2002, the EU created the Solidarity Fund, dedicated to aid Member States in times of recovery following a major disaster, which is capped at € billion per year. Among other elements, it assists in the restoration to working order of telecommunications infrastructure.

The main body dealing with disaster response over the continent is the Community Mechanism for Civil Protection under the aegis of the European Commission (EC) Environment Commissioner. It helps coordinate

supplies to disaster-stricken Member States and coordinates the effective use of community capabilities in response to a crisis. It has recently issued a request for proposal for further emergency staff training, which requires elements on market-specific satellite operators and equipment vendor solutions as part of the curriculum.

Europe is also the seat of many international organizations concerned with disaster recovery communications, and one such example is the Geneva-based International Telecommunications Union (ITU). The ITU produced an international agreement known as the Tampere Convention, which came into force in early 2005 (one week after the Indian Ocean tsunami) and was ratified

FEATURE



by more than thirty member States. The agreement enables quick deployment of communications in time of disasters as governments lift telecommunications rules temporarily. According to the Global VSAT Forum, this agreement helps overcome many rules hindering greater use of satellite equipment such as licensing, equipment approval process, type approval, space segment access, and custom tariffs.

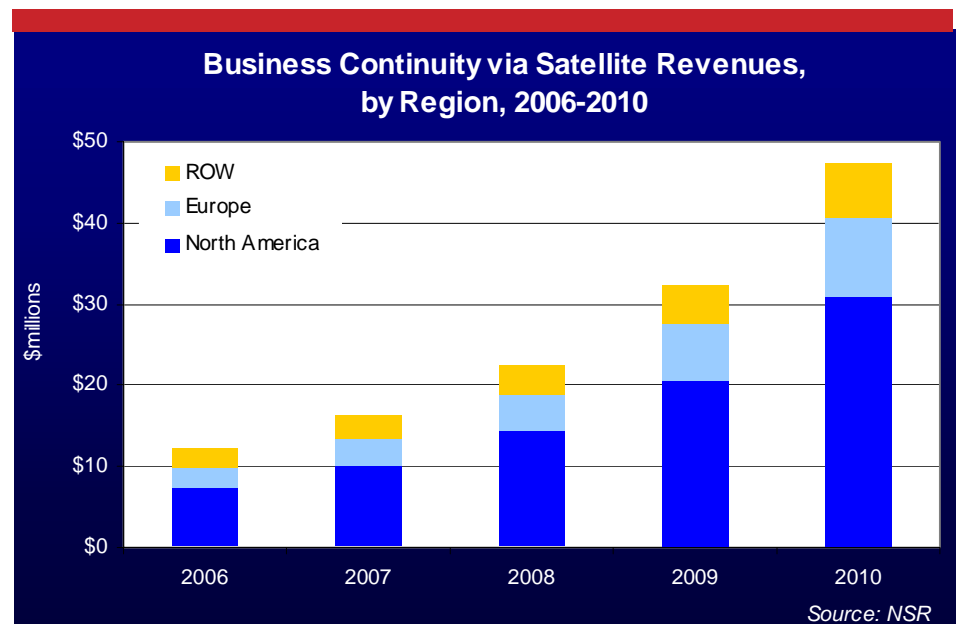
Governments Represent Core Target Market

The primary vertical market for disaster recovery in Europe, similar to other regions, is the civilian government sector. In this sector, relief and coordination organizations such as national civil protection agencies or NGOs are at the forefront and have the most advanced preparedness plans. The specialized needs of emergency managers following a disaster though are still not completely framed since many do not have training and funding for satellite communications.

The situation at the national level in EU-25 shows cohesiveness and dynamism that is often lacking both across borders of the Union and continent-wide. A recent report authored by former EU Commissioner Michel Barnier called for the creation of a European Civil Protection Force to

address the lack of a cohesive and coordinated approach to recovery in emergency situations in Europe and abroad. The implementation of such a force could be a strong driver for uptake in satellite equipment by European relief personnel, as the report points to a need for improved communications. NSR therefore believes that strong revenue growth in this space will be driven by emergency planners in government and civilian agencies, who will procure equipment ahead of the crisis.

Players in this space have benefited from various programs funded by the European Union to develop standards, interoperable equipment and network architectures suited to users in the market. One such example is Telespazio, which developed a satellite telecommunications network tailored to fire fighters in Italy and that includes mobile and transportable units for voice, data and video communications, as well as Internet access. The system, ready in time for the Winter Olympics in Turin in February 2006, also features a connection between the central command center



FEATURES

mand center and the regional and district operations locations. It is fully interoperable with the national fire service and even includes a back-up satellite link from the Fire Services Management Center to the civil protection services. Based on Alcatel Alenia's SkyplexNet technology, it has now been further expanded to Italy's National Fire Brigade Stations.

There is also movement in other parts of the EU as described in a letter by the Head of the UK Civil Contingencies Secretariat in August 2006. In the letter, it is indicated that measures would be taken to augment satellite phones already rolled out across the UK to local and regional authorities so they would be able to better use their equipment and the services in times of crisis.

From Narrowband to Broadband Satcom Growth

NSR estimates that constant growth in Europe over the period 2006 to 2010 will be the result of increased unit deployments primarily for mobile and fixed narrowband services, which are the first elements used after a disaster. Indeed, narrowband mobile



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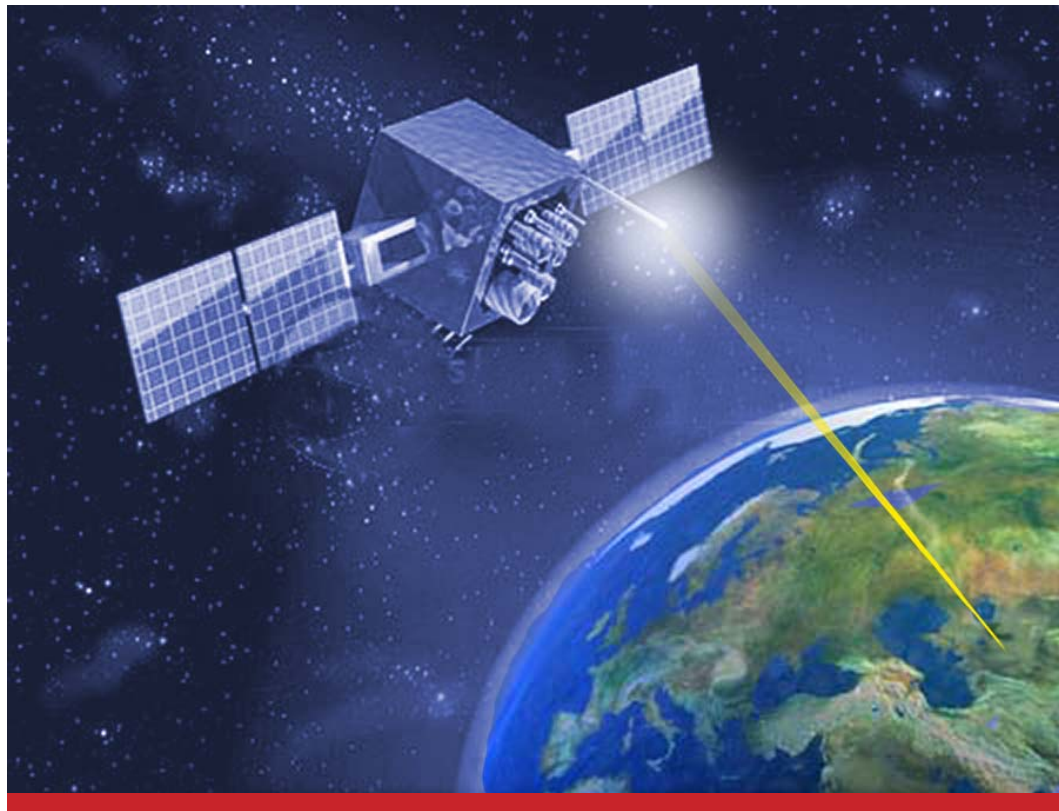
FEATURE

NSR estimates that constant growth in Europe over the period 2006 to 2010 will be the result of increased unit deployments primarily for mobile and fixed narrowband services, which are the first elements used after a disaster. Indeed, narrowband mobile equipment will provide first-responders at the scene with the required performance to enable assessments and situational awareness of the affected sites. Then, while sufficient to continue supporting efforts, narrowband will be complemented by broadband mobile and fixed systems that can carry larger file sizes and full web-based capabilities.

It is likely then that demand for mobile broadband solutions such as Inmarsat's BGAN will rise in Europe once awareness increases and its ease of use is recognized. Norway's Telenor Satellite Services made inroads into the area by signing a two-year contract with the International Rescue Committee (IRC) to supply their IP-based BGAN and Regional BGAN services for IRC's emergency relief staff worldwide.

Business Continuity via Satellite Offers Critical Infrastructure Support

As with many other public policies in Europe, consensus-building is an overarching issue governing the size and diversity of the Union, and emergency communications is no different. However, in light of the increased threats from pandemic flu or terrorist attacks, the number of companies that are drafting and implementing continuity of operations plans is increasing. The



Forum for Public Safety Communication Europe has been established to address the consensus and propose a road map for the future information inter-change and co-operation on the subject.

Whereas disaster recovery services are typically implemented in the days following a disaster, business continuity services are required hours or minutes after a failure occurs. Business continuity clients are offered satellite products and services for backup or redundant network communications to and from site(s) due to temporary outages (emergencies, disasters, server crashes, equipment upgrades). The primary characteristics that disasters and outages share is their unpredictability, so planning for the best solution to quickly recover network communications and continue operations is far from an exact science. The only sure thing is that

action is required in the least amount of time, and many redundant satellite systems provide assured access for a speedy recovery and seamless continuity of operations.

NSR forecasts that increased needs for diversified network paths for enterprises will drive the uptake in satellite equipment and bandwidth in the business continuity space in Europe. For many large and medium-sized corporations, the availability of a ubiquitous satellite link that can be automatically "switched-on" when the terrestrial lines are out is the sole assurance to prevent losses.

This market is a two-way broadband fixed satellite service play with some mobile and portable services at the margins. Players in this space offer redundant connectivity and

FEATURE

interoperability through hybrid networks (terrestrial + satellite) and sometimes purely satellite-based solutions that automatically switch to an “always-on” solution when the terrestrial backbone goes offline or is overloaded. These types of solutions are easily scalable and adaptable to remote sites that can be linked to the hub with a two-way satellite connection until the land-based infrastructure is back up and running. The recent technologies announced to increase seamless integration of satellite with terrestrial networks and better business continuity planning, especially in Europe, will drive demand.

Claude Rousseau is Analyst, Satellite Communications for NSR. He can be reached at crousseau@nsr.com

Information for this article was extracted from a recently released NSR report entitled **Disaster Recovery and Business Continuity via Satellite**. Complete information can be found at www.nsr.com

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EXECUTIVE SPOTLIGHT

Interview with GlobeCast Americas CEO Mary Frost

Mary Frost was recently promoted to CEO of leading service provider GlobeCast for the Americas. She is responsible for GlobeCast's operations and sales in North, Central and South America—a very large and important area in terms of GlobeCast's global operations. She joined GlobeCast Americas in 2003 as Sr. Vice President, Sales, and was later named Chief Commercial Officer. Her more than 25-year career includes key positions as Managing Director at Price WaterhouseCoopers' Entertainment, Media and Communications practice; Vice President of Network Broadcast Operations and Engineering for Disney and ABC, managing news and technology operations during 11 years at the network in New York; General Manager of ICO Global Communications in America; as well as CEO and President of two interactive and digital asset management ventures. In a recent visit to their Network Operations Center in Los Angeles, Frost spoke with *SatMagazine* Managing Editor, Virgil Labrador on her plans and her impressions on the North American and Latin American satellite services market. Excerpts of the interview:



Mary Frost

Q. How are you finding the transition from sales to CEO?

I'm very comfortable with this position. I've been CEO before of start-up high tech companies and because I have been here since 2003, I know the immense amount of talent that we have. When I was appointed CEO, the first thing I did was interview every person in the company that I could, even if it was only for 15 minutes—every operator, every technician, every engineer—and asked them these questions: what are three great things in the company that they see and what three things can be improved? From that I basically sealed the way forward to meet those expectations. One thing I discovered is that if you have a

great base of talent that are passionately devoted to the company, then you can do almost anything you want.

Q. So essentially what was the consensus among your staff about the company?

The three great things that people cited the other people that they work with—whether it was the newbies who are just coming in and who could learn from the experienced people—there was cross-fertilization going on of talent. The second thing they said was that they really like being a global company—the international scope and the customer base that we have. It makes for a very interesting day when you pick up the phone and you can be speaking to someone in any language and that your counterparts are in Paris, London or Singapore. The third thing is that they like that we are a technology oriented company and that we are willing to try new initiatives such as IPTV and we also have a new growth area in Latin America where we are doing all kinds of things from special events

to carry quite a bit of the World Cup business, for example.

So they are excited with the technology part of our business, whether it's the contribution side—covering major events all over the world, being part of a of history—or it's the diversity of working with major corporations in our enterprise area, or it's our bread and butter television networks in WorldTV where we bring almost 200 ethnic channels into the US market.

As far as things to be improved, they all wanted training. We are so busy that we don't train enough. So we have embarked on a very intense training program to bring together our technical operations and network operations groups. It's bringing together the IT capabilities of predictive problem solving with the technical group which are reactive to problem solving. So we're trying to bring these together to provide an exceptional service to customers.

EXECUTIVE SPOTLIGHT

Q. What are your specific plans for the short-term?

I believe we have a lot of opportunity. When you look at the satellite market globally –it’s very solid. What I see is that we have this mix of fiber and satellite and we use a great deal of fiber –it’s like the world’s longest local loop. But we are very focused on satellite as a delivery mechanism and we are trying to bring together those two parts and tighten up the global network. It didn’t start out as global network, it started out as individual networks, so we are trying to bring those two together to have a comprehensive offering. The point being that a customer could enter our network anywhere—inject anywhere, eject anywhere in the world—and get full service.

Q. Will you be consolidating facilities in North America?

Our Miami facility needed a lot of updating and we had a great workforce but its time to retire that workforce. So, we are moving to a new house. And that new house is HBO Latin America which has a top notch, state-of-the art facility and as you might know HBO Latin America is owned by Sony, Time Warner, Disney and Ole Communications. We are very excited about the possibility of being able to provide a whole new range and level of services because we were so constrained in our old facility as far as growth and here we have unlimited growth. Latin America has just been great for us in the last three years and we still see the need to provide a gateway into Latin America and vice versa into the US and Europe.

Q. What are your impressions of the Latin American market?

The Latin American market is often characterized as cyclical, like five-year cycles and for us we are now on the third year of a pretty heavy growth cycle. We focus on results first and we found considerably business in various places such as Columbia, Argentina and Chile.

Q. What services are in demand in Latin America?

Many of them are interested in distributing to the rest of the world. Actually, in a nutshell that’s our core business—everyone wants their valuable content distributed to the widest possible audience. With the telcos in the US going into IPTV there is also going to be demand for programming going to Latin America and to here.

Our highest growth business is World TV with its 200 channels of ethnic programming. That’s really a gangbuster business which we can seem to find capacity or channels to launch. The telcos see that as a differentiator –something that they can

deliver to the home that the cable providers have limited capacity to do so. So they think they can jump ahead by providing ethnic programming and we provide them with a one-stop shop to enable them to do so.

Q. Where do you see the areas of revenue growth?

We are focused on several areas of growth: first is in the enterprise market. We have a product for enterprise called “Captive Audience Networks” or digital signage. And really if you look at our business we have always been providing networks with network distribution and this pushes the concept of networks. So now enterprises can have their own networks into a their stores, dealerships or franchises etc. In fact they can have 10 networks. There is also growth in business continuity services for enterprises.

HBO Latin America will provide us our growth vehicle for the Latin American market.

And IPTV is emerging and will give us significant traction in the 2008 time-frame but they are making the decisions now. World TV is consistently giving us 30 percent growth every year and they are only constrained by capacity.

Q. In the global scheme of things within GlobeCast, where does GlobeCast Americas stand as far a revenue contribution?

We are currently about 20 percent of the global revenues of GlobeCast.

Q. Do you have a goal in mind to change that?

Yes, significantly more.

Q. If we do this interview again say at the end of 2007, where do you see GlobeCast Americas by that time?

I would see it as having new revenue streams, some expanded markets in Latin America and in Canada, which we have not focused on as much as we should have. Also, I hope that IPTV revenue will take off then and World TV will be widely distributed in a variety of ways whether it be telco, cable, broadband as well as direct to home. **SM**

Editor’s note: An audio file of the full interview with Mary Frost is available on Satnews Online at <http://www.satnews.com/frames.html>

REGIONAL UPDATES

Brazil Satellite TV Market Profile

By Bernardo Schneiderman

Brazil as one of the major economies in Latin America has been expanding the use of satellite for video application during the last three years influenced by several factors. Among them are the economic factors where the US dollar with a low value comparing with Brazilian currency (Reais) is helping investments with dollar base assets (uplinks & other transmission equipment). At the same time satellite carriers with oversupply capacity of space segment are offering lower price satellite bandwidth comparing with prices in the international market. These are the two main factors that generated the growth in the satellite video market in Brazil during the last few years.

At the end of 3rd quarter 2006 with the announcement made by Anatel and the Brazilian Government establishing the Digital TV Brazilian Standard (The government adopted the Japanese Standard among the American and European standards). One of the main factors the Japanese standard was selected is the possibility to incorporate mobile video among other commercial and technical factors. This decision will be a new push for the video/TV broadcast satellite market for the next 2 to 10 years in Brazil. The new Digital TV standard will bring requirement for more bandwidth to transmit digital high definition TV in Brazil and other related application with HDTV and etc.

Base in recent statistics from Anatel at the end of 2005 (Brazil Regulatory Body) TV sets had a penetration of 90% of Brazilian Homes where 100%

Brazil - Basic Facts

- **POPULATION:**
185 Million (2005) – half of South America
- 5th in the World
- **INCOME GENERATION POP:**
87 Million Labor Force
- **AREA:**
5.2 Million Square Miles / 8.5 Million Square Km – 2 ½ the Size of Western Europe – Larger than Continental U.S.
- **GROSS DOMESTIC PRODUCT (2005):**
US\$ 795 Billion; 11th in the World;
Above US\$ 1 Trillion by PPP Criteria
- **PER CAPITA INCOME (2005):**
US\$ 4295 – Average Income Country



penetration in the Class A and B and down to 80% in class C, D and E. Another number released during the first quarter of 2006 was the number of Pay TV Subscribers (Cable and DTH) in Brazil reach 4.3 million subscriber where 70% was cable and 30% DTH.

Broadcast TV Profile

As any major region of the world the video market is divided in the following segments in Brazil:

- Free over the air TV Broadcast channels
- Pay TV (Cable or Satellite)
- Distance Learning and Corporate TV

Free Over the Air TV Broadcast Channels

Among the main National TV Networks Free over the air we have the following main organizations:



These 6 Brazilian TV networks (Globo, SBT, Bandeirantes, Record, Rede

REGIONAL UPDATES

TV and TVE – Nacional) have a market share around 90% of the TV Network free over the air. These networks have full coverage of the main Brazilian domestic market with Globo as the leader in market share with more than 50% of audience.

Additionally in the Broadcast TV market the regional distribution is becoming a key factor of expansion and the replacement of microwave links with satellite distribution. The use of Satellite capacity in several areas of Brazil where the market is becoming more focus in regional broadcast are bringing a need for more satellite capacity and was one of the key expansion in satellite use.

Pay TV (Cable and Satellite)

In the Pay TV market the DTH (Satellite TV) providers in Brazil had a major announcement this year when Direct TV and SKY merge was approved during the second quarter of 2006. Sky and DirectTV dominate 90% of the Market with a number of subscribers reaching 1.3 million at the end of 1Q2006. Currently all the DTH are in Ku band in Brazil where 10 DTH companies are authorized to use this platform but the market is dominated by the main two players DIRECT TV and SKY with the other regional and national players getting only 10% of the market share. Another interesting fact in the Brazilian market is the analog channels broadcast by the main networks that has still been distributed by Brasilsat B1 (StarOne Carrier) and has more than 18 million of satellite receive only dish using C-band frequencies.

The cable TV distribution in Brazil is using in the majority of the cable network the Satellite Brasilsat- B3 operated by StarOne in C-band. With the opening of the market in 2003 and the introduction of Ku-Band in Brazil during the last two

Satellite Name	TV Channels	% of the Market	Satellite Operator
Brasilsat-B1	56	28%	Star One
Brasilsat-B2	8	4%	Star One
Brasilsat-B3	61	30%	Star One
Brasilsat-B4	6	3%	Star One
Amazonas	16	8%	Hisparat
EDS1	8	4%	Loral Skynet od Brazil
PAS3	1	0%	Intelsat
PAS9	1	0%	Intelsat
PAS1R	3	1%	Intelsat
NS806	11	5%	NS + SES
NS87	3	1%	NS + SES
Intelsat 805	7	3%	Intelsat
Intelsat 907	2	1%	Intelsat
Europebird- 1	1	0%	Eutelsat
Astra 1KR	1	0%	SES
Hisparat 2C	1	0%	Hisparat
Hisparat 1D	1	0%	Hisparat
Hot Bird	3	1%	Eutelsat
Atlantic Bird1	1	0%	Eutelsat
AMC 12	5	2%	SES
Hot Bird 7	1	0%	SES
Eutelsat 3	1	0%	Eutelsat
Atlantic Bird3	1	0%	Eutelsat
Telstar 12	2	1%	Loral Skynet
	201	100%	

Table 1: Statistic of Satellite Carriers and Number of TV Channels in Brazil

years we are seeing some new distribution via Ku-band in some small cable tv networks and regional networks.

Distance Learning and Corporate TV

Distance Learning and corporate TV

market in Brazil are another areas that are expanding with the introduction of Ku-Band in the Brazilian market during the last 3 years. This segment of the market is consuming Ku-Band satellite bandwidth both for DTH application and satellite distribution using DVB receivers. This



area is another expected growth for satellite use in the market in Brazil.

Satellite Carriers Profile

In the Brazilian market the satellite carriers are divided by Domestic Satellite Carriers (using orbital slot own by the Brazilian Government) and International Satellite carriers authorized by Anatel.

Domestic Satellite Carriers

StarOne (Own by Embratel as majority shareholder and minority by SES)

Hisparmar – (Own by Hispasat as the main shareholder and Telemar minority owner)

Loral Skynet do Brazil (100% owned by Loral Skynet USA)

International Satellite Carriers

Among the main players are Intelsat (Panamsat) and New Skies (SES Americom) but some other players like Hispasat, Eutelsat and SES are active in the market.

Table 1 shows Brazilian market statistics where 24 geostationary satellites are providing coverage and services for 201 Brazilian TV channels with application in analog, digital, national distribution, regional distribution and international distribution for TV services.

StarOne with 4 domestic satellites

(Brasilsat B1-B4) in Brazil dominate the Broadcast TV market with 65% of the market share for both Analog and digital distributions for TVRO and Cable Headends. Hisparmar with Amazonas Satellite has 8% of the market share with a mix of application in regional TV and distance learning in C and Ku-Band. Loral Skynet do Brasil with Estrela do Sul focus in Ku-Band both in Distance Learning and Regional TV reach 4% of the TV market. The others players in the Brazil TV market are the International carriers that control 23% of this market.

The future of the Brazil Satellite TV market will be influence now by several positive factors. Among than the lack of satellite capacity by the main satellite carriers are bringing the price per MHz at the same level of the International market supporting potential new satellites launch for the Brazilian Market. Additionally with the expectation of the implementation of HDTV in Brazil for the next 10 years will bring more requirement of capacity and the entrance of the triple and quadruplayers in the market are main growth factor. Telefonica is planning to launch their DTH platform to Brazil at the end of 2006 (Including other countries in Latin America) and Telemar (Regional Telco) just acquire a Pay TV services with the intention to expand in the TV market. Overall the opportunities for carriers and vendors are very positive and for the TV Networks the use of new MPEG4 and DVB-S2 will accommodate both sides the demand in this market. **SM**



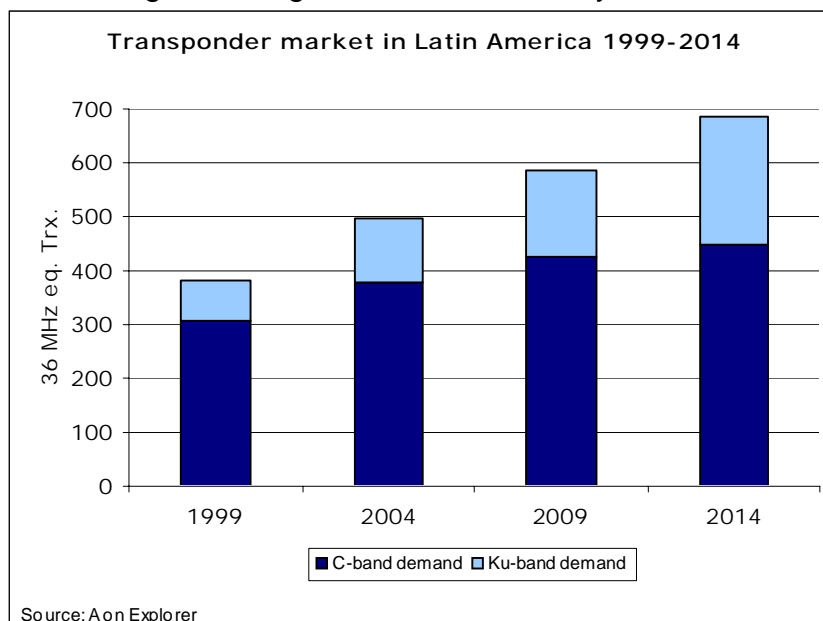
Bernardo Schneiderman has over 20 years of experience in Satellite Communications and is the President of Telematics Business Consultants based in Irvine, CA. He can be reached at bernardo@tbc-telematics.com

VITAL STATISTICS



Aon Explorer forecasts a demand for 189 additional satellite transponders by 2014 in Latin America

- Transponder market is forecast to grow by 3.3% CAGR over 2004-2014
 - The total satellite capacity sold in Latin America increased by a 5% CAGR over 1998-2004, from 364 Trx. in 1998 to 501 Trx. in 2004.
 - The market is forecast to continue expanding, going up to 694 Trx. by 2014, with a 3.3% CAGR.
- C-band has been generating the bulk of the demand
 - The majority of transponders are leased in C-band, which is estimated to represent 76% of the demand in 2004.
 - Over the next ten years, it should maintain its dominant position, though evolving downward to 66% by 2014.



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 has developed a thorough expertise in business plans, feasibility studies, companies due-diligence both for the satellite industry and the finance community. For more information contact: Laurence Journez, phone: +33 1 5875 6064, fax: +33 1 5875 7715 e-mail: laurence_journez@aon.fr or visit their website at: www.aon.fr/aonexplorer

MARKET INTELLIGENCE



Forging New Capacity & Driving New Connections: Evolving West Africa's Satellite Potential

By **Martin Jarrold**,

Chief of International Program Development, GVF

West Africa's command of centre-stage position in the rapid development of the African continent's telecoms arena, resulting from unprecedented levels of private sector demand for satellite-based voice, data and video solutions, continues to go from strength to strength.

The commissioning of the NigComSat-1 spacecraft, which is being built to service this now rapidly accelerating requirement for cost-effective connectivity within the West Africa region and the continent as a whole, as well as between Africa and Europe, reflects the universal recognition that access to information and knowledge through affordable communications represents a significant opportunity for social and economic development, for regional cooperation and integration, and for increasing the participation of people in the emerging global information society. Across all regions of Africa, the imperative of overcoming the barriers to, and fixing the manifold current deficiencies in, the means of access to low-cost communication services is top of the agenda for not only improving the quality of life in African countries, but for significantly enhancing the mission-critical productivity capabilities of a range of African vertical markets.

In the program of the upcoming **West Africa Satellite Communications Summit**, one of these key vertical markets is mobile communications

services. Whilst Africa's information and communications technology (ICT) landscape has undergone significant developments over the last five years, with many countries – for example Nigeria – with ten times as many telephones as a decade ago, mobile penetration remains comparatively low despite very high demand and an entirely uncompetitive fixed line sector.

In West Africa, mobile phone penetration remains below 12 per cent and even in the sub-regions of the continent with the highest penetration levels – North Africa and Southern Africa – the numbers are just 28 per cent and 26 per cent respectively. Looking ahead, across Africa as a whole, a total of 184 million *new* subscribers are expected to be “on-network” over the five-year period December 2006 to December 2011. Servicing this level of forecast demand growth will require the continued deployment of an efficient and geographically widespread infrastructure, one that reaches into areas where services are not currently available. Such deployment will, at least in part, continue to be dependent on satellite-mobile hybrid solutions in which satellite provides the service-mission-critical links of remote base station connection – via VSAT – into the mobile network, and of ‘trunking’ of international voice traffic.

NigComSat-1

As contracted by the Nigerian

National Space Research and Development Agency (NASRDA) NigComSat-1, based on a China Great Wall Industry Corporation Dongfanghong-4 (DFH-4) satellite platform, will be launched to a geostationary orbital position of 42.5 degrees East atop a Long March 3B, with delivery in orbit scheduled for early-2007. With a payload of 40 transponders – see inset box below – NigComSat-1 will use Ku-band frequencies to provide communication within the West Africa region (the ECOWAS 1 Beam), and between Southern Africa and part of the ECOWAS* region (the ECOWAS 2 Beam); C-band frequencies will be used to service communications across and between the West, Central and East Africa regions; and, Ka-band frequencies will be used for communications between Europe, Southern Africa and Nigeria.

C-band	6 active + 4 redundant transponders
Ku-band	14 active + 4 redundant transponders
Ka-band	8 active + 2 redundant transponders
L-band	2 active transponders

In recognizing such developments – and, indeed, to contribute to the facilitation of the continuing West African regional communications dialog – GVF, and its organizing partners, are right now attracting to the **West Africa**

MARKET INTELLIGENCE

Satellite Communications Summit, to be held in Abuja, Nigeria, not only the providers of satellite-based communication products and services but a broad existing, and potential, customer base from such industry verticals as energy exploration and production, banking and other financial services, and mobile communications, as well as the development sector.

NigComSat Ltd, the company which will manage and operate NigComSat-1, has recently become the Principal Sponsor of the Summit, and support for the event has also been confirmed by the user community. For example, members of the Oil Producers Trade Sector (OPTS) – Telecommunications Sub-Committee, representing ICT professionals in major oil companies in Nigeria, will be contributing to the program. Mr. John Nwafor, committee chairman and senior ICT manager at Statoil, Nigeria, will give an address.

The high-level executive participation of end-users from the region's economically vital verticals – as noted above – will be central to the Summit proceedings, and the following organizations have now confirmed speaking positions: Conoco Phillips, Nigerian National Petroleum Company, Capital Alliance, Guaranty Trust Bank, LM Ericsson Nigeria, and MTN.

West Africa Satellite Communications Summit

The program for the Summit, to be held over 31 October to 2 November 2006, will not only explicitly address these, and other, closely related developments, but also feature Keynote Addresses from key regional telecommunications figures from the public sector whose everyday professional mission

includes furthering the spread of understanding of this economic and social imperative: for example, “**Satellite Networking and West Africa's Road to Broadband**” and “**The Dynamics of Regulatory Change: New Advances on the Agenda**”.

With more and more African Administrations implementing policies and regulations that seek to open telecommunication markets to varying degrees of competition, studies of various African telecommunications marketplaces clearly show that different countries across the Continent occupy a range of different positions on what has been coined as the “ICT Development Curve”. Those countries that can demonstrate the most advanced markets are those with the most effective policy and regulatory environments, particularly in the satellite communications field. Indeed, in Nigeria, where the **West Africa Satellite Communications Summit** will take place, national success is largely attributable to how much further that country has progressed in liberalizing and deregulating its telecoms market, resulting very largely from the effectiveness of the regulator, the NCC.

In addition, other countries in the West African region are on the verge of making significant moves to evolve a broader, regional, approach to telecoms regulation. This has happened as a result of a landmark agreement among the regulators of 15 nations across the region in developing a common regulatory framework for their national ICT markets. The new harmonized regional framework for West Africa was agreed in September 2005 with guidelines that are designed to spur investment and development in the West African ICT sector. Once widely implemented, by the individual nations of the West African telecommunications Regulators Assem-

bly (WATRA), these guidelines will prove instrumental in helping propel some of the world's poorest nations into the information society.

Figures from the public sector will be joined by a wealth of private sector speakers from the satellite provider community, whose acknowledged mission is in endeavoring to meet Africa's demand for cost-effective connectivity, and providing access to the very latest developments in satellite-based applications and technology to enable their customers' industries, and individual enterprises, to fully flourish in a globally competitive marketplace.

Indeed, in referencing the key question ***Does Broadband Satellite Make Sense for West Africa?***, the Summit will cover all of the mission critical issues in the global and regional satellite telecommunications product and service marketplace, particularly as they impact upon the deployment of state-of-the-art applications and communications solutions across the Anglophone and Francophone nations of West Africa. The Summit's interactive Roundtable Panel Discussions will include the following themes:

- **IP Access & Applications: Satellite Communications and the Convergence Arena**
- **Seamless Satellite Networking: The New Service Paradigm in the Operator Market**
- **Evolving the West African SatComs Access Model: New Regulatory Environments and the Liberalizing Marketplace**
- **Satellite-Hybrid and Satellite Pure-Play: Advancing the Mobility Factor**

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- Voice over Internet Protocol: The Satellite, the End-User and the Telco
- Banking on Satellite: ATMs, Shared Hubs & Managed Network Services
- Satellite Networking for Socio-Economic Development

[Please go to www.gvf.org and click on the Summit banner link for more information, or go directly to www.gvf-events.org.]

[* N.B. ECOWAS is the acronym for the Economic Community of West African States.] **SM**



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