



# SATMAGAZINE.COM

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Worldwide Satellite Magazine

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A satellite image of Europe and surrounding regions, showing land in shades of brown and tan and water in dark blue. A prominent red diagonal banner with a white border cuts across the middle of the image, starting from the left edge and extending towards the top right corner. The headline is printed in white capital letters on the red banner.

## EUROPE'S WARMING SATELLITE MARKET

# SATMAGAZINE

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by Chris Forrester

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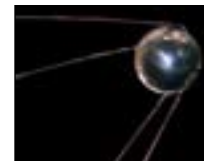
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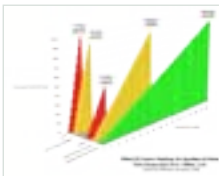


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by Hartley Lesser

*David Bross is the Chairman of ISIS NYC '07 and is part of the Hannover Fairs team producing a variety of events around the world. I managed to catch David in between his busy schedule to ask him about one of the key events in October of this year in New York City.*

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by Dr. Graham King

*All IP routing devices have a limit often overlooked when planning a network, especially when designing a voice and data network using satellite modems with IP interfaces. All modems using IP are a form of router. All routers have a limit to the number of packets per second (PPS) they can switch.*

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*BTV networks are valuable communication tools for companies spanning large geographic areas. The Asia Pacific region is not only a large landmass, but also home to increasing numbers of employees within multinational corporations.*





# EDITOR'S LETTER

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## WELCOME TO HARTLEY LESSER

First, I wish to thank so many of our readers and the professionals at SatNews Publishers for the warm welcome I have received upon entering this publishing environment. I have received many superb suggestions and ideas as to how best to continue and improve the tradition of Satnews Daily and Weekly as well as our two magazines, *Satmagazine* and *MilsatMagazine*. I would heartily recommend if you have not subscribed to our daily and/or weekly news email blasts, you enroll and enjoy this free service. Our commitment to all in the satellite communications and ancillary industries is steadfast and we wish to ensure your satisfaction with all of our products, from the annual, two-volume *International Satellite Directory*, the bible of our industry, to the magazines and our massive online informational efforts.

This September 2007 issue of *SatMagazine* is, how best to put it... stellar! Europe, Middle East and Africa Editor and Columnist extraordinaire Chris Forrester offers the lead story for this issue, "European Satellite's Blistering Future." As Chris so aptly says, "European satellite is in great shape, with one major banker suggesting that SES (which controls the Astra, Americom and New Skies fleets) should be treated as a rip-roaring media stock. We look this month at SES and Eutelsat's fundamentals and their plans for the future." Terrific reading!

Our Asia-Pacific Editor, Peter Gallace, manages an in depth look at a market where predictions of 52 million homes accessing HDTV is within reason, especially in Asia. Read his insightful look at "Growing Asian TV the Measat Way". Michael Fleck, a long time contributor to our publications, relates to all that, "by the year 2009, employee numbers in Asia would be greater than the combined employee numbers for the rest of the world." Be certain to read his feature, "It's True! Size Does Matter. BTV In Asia." An eye-opener, to say the least.

I have an introduction to put forward, as well. Regulatory issues can be troublesome. However, when the talents of our new columnist, Tara Giunta, come to bear on the issues facing our business today, you'll be able to make significant headway. Through understanding and comprehension comes intelligent application. Tara is a partner of the Washington, DC office of Paul, Hastings,

Janofsky & Walker LLP and she has extensive experience in advising clients operating in, providing services to, and/or financing companies in the satellite sector. From project commercialization structuring to internal audits, compliance consulting and more, Tara knows the regulatory world like few others. Her first column is entitled, "Satellites' Golden Anniversary—All Eyes on WRC-07". Tara will be writing her informative column in every other issue of *SatMagazine*—we welcome her aboard!

Do you believe everything you're told? Such as, satcoms are only used in underdeveloped regions of the world? Think again, me buckos... Chris Watts reveals another satcom use in a developed region of the world—"Satcoms Help Welsh Electricity Provider Stay Connected". Read and believe... And we have Dr. Graham King, the President and CTO of NSGDatacom writing most authoritatively in our SOLUTIONS FOR: section with his article "Packet Per Second Satellite Throughput Limitations", and we learn why high quality VoIP and mixed voice/data networks have to consider the PPS limit for a satellite modem.

Another regular, highly anticipated column each month is authored by either David Hartshorn or Martin Jarrold—Market Intelligence. And the content is just that—ways and means to ensure additional successes for your business. We must also remember next month, October, is packed with two tremendous events. I'll offer you an overview of ISCe '07 and SATCON 2007; two events industry professionals should attend to ensure they remain up-to-date on the satellite financing sector and the latest technologies. Plus, I managed to squeeze some time from David Bross, the Chairman of ISCe, for a short question and answer piece regarding ISCe as well as short SPOTLIGHT with Mobile Satellite Venture's President of Satellite Services, John Mattingly, regarding his company's new Custom Capacity Service. Our featured satellite this month is: (tah-dah) SES Americom's AMC-6...

Thank you for joining us this month. If you have a burning need to write about a specific technology, a solution, a company, or have an op-ed that needs to be written because it's keeping you up at night, write to me... and who knows? All my best for your continued success.

## SATMAGAZINE

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# SEPTEMBER SPOTLIGHT

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## THE FINANCIAL SIDE OF THE SATELLITE BUSINESS

*LISTEN... LEARN... SUCCEED*

by Hartley Lesser, Editorial Director

According to *Abraham Maslow*, a leading humanistic psychologist whose book "The Organism" offered his idea of self-actualization to readers, he researched and believed there are five levels of basic human needs. Each requirement, when met, leads mankind to the next level. The base need, and the strongest, is that of the biological—food, water, oxygen, and constant body temperature. Safety is next and the need for job security, financial reserves, even medical insurance, all can satisfy our need for security. Affection, love, a sense of belonging resides at the third level. A sense of esteem, self-respect, the ability to succeed, brings us to the fourth level. And riding at the top of Maslow's hierarchy is self-actualization... creativity, problem solving, acceptance of facts, morality, trust all reside here.

As individuals, we work diligently to ensure our biological needs are met. When we arrive at the second and higher levels in Maslow's pyramid we usually require assistance. By learning from those who have already succeeded, we may gain knowledge from their examples.

Events such as the **ISCe Satellite Investment Symposium** in New York City can make it easier to achieve the second through fifth levels of the pyramid. Mark this date on your calendar—October 9th, 2007.

This single day, annual conference is the leading satellite communications conference of its type. The information gleaned from this gathering can help ensure your company's, and your own, success. Improved will be your sense of security, your ability to problem solve as well as the empowerment to succeed.

The event is strictly focused on the financial foundations of the multi-billion dollar satellite communications market. How does about \$106 billion in estimated revenues grab you? This is truly a financial summit without equal, there are three panel sessions. Each presentation is conducted by top satellite and

broadcasting executives from key industry sectors. Also blended into this day of effective analysis are three exclusive CEO interviews. And during lunch, a high-profile speaker will continue to inform and enlighten all as to financial specifics.

With such a confluence of expertise, your business should enjoy exemplary results. A proper perspective of the financials and how they apply to your company and business objectives will enable you to direct your goals in an appropriate fashion and assist you when you acquire your share of this huge marketplace.

To register for this October 9<sup>th</sup> event in New York City, held at The Princeton Club at 15 West 43<sup>rd</sup> Street (that's between 5<sup>th</sup> and 6<sup>th</sup> Avenues), you should download and complete the forms found at [www.isis-nyc.com/reg.html](http://www.isis-nyc.com/reg.html). For additional information or assistance, contact Lloyd Guiang at 562.901.9191. Or, you can email Lloyd at [lguiang@hfusa.com](mailto:lguiang@hfusa.com)

Absorbing the information from those who have already claimed success can enhance your chance for achievement. The ISCe Satellite Investment Symposium NYC 07 is an important step in that business actualization process.

Later in this issue of SatMagazine, I had the opportunity to interview David Bross about this October 9<sup>th</sup> event. He offers some background information on the show as well as discusses the relationship between ISIS, ISCe and Hannover Fairs. ■



Hartley Lesser, Editorial Director for Satnews. He is responsible for all Satnews editorial activity worldwide including SatMagazine, MilsatMagazine, and Satnews.com's daily and weekly offerings. Hartley brings 20 years of experience as a senior technology writer, editor, videographer and publisher to SatNews Publishers. He can be reached at: [hartley@satnews.com](mailto:hartley@satnews.com)

## EUROPEAN SATELLITE'S BLISTERING FUTURE

by Chris Forrester

People close to the satellite industry can be forgiven for assuming that all is well with the business. However, it's reassuring when an outsider takes a close look at a geographical sector, such as Europe, and gives the region's two dominant operators, SES and Eutelsat, a clean bill of health.

tion of the media sector (broadcasters, agencies, consumer publishers, some B2B) is funded by advertising, and thus sensitive to the economic cycle and consumer confidence, the satellite stocks are not. Yet SES and Eutelsat trade at a discount on price/normalized FCF to the agencies and the broadcasters. Reed Elsevier, on the other hand, benefits from the fact that it is generally isolated from this issue, and has highly visible earn-

Indeed, the 20-page report from investment bankers Morgan Stanley goes even further. Investment bankers are interested in only one element: getting a return on their shareholder's investment. That is also true of this report. But the bank suggests that satellite operators should be treated more like media stocks, says the bank's senior European media analyst, Sarah Simon.

"At our price targets, which imply 29 percent upside for SES and 19 percent for Eutelsat, the two would trade in line with pan-European media on 2009 price/normalized free cash flow. Yet both offer above sector growth rates, while most of the sector is battling with the structural headwinds of fragmentation and the Internet, these are the drivers of growth for SES and Eutelsat," says the bank.

Both SES and Eutelsat trade at a "substantial discount to Inmarsat on the basis of price/normalized free cash flow. They also trade at a discount to the media sector overall, which is on c 14x 2009 price/FCF, on our estimates. Note that the sector overall (absent the satellite stocks) does not really need normalizing, given the generally recurring nature of capex (which in any case is relatively limited since the sector tends to be "asset-lite")," says the bank.

"We do not believe that this discount is warranted: indeed, we would argue that satellites should trade at a premium, particularly in the current environment. For while a large propor-

# COVER STORY

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ings due to the subscription nature of many of its businesses, and it trades on 15x 2009 FCF. SES and Eutelsat, however, trade at 11.7x in aggregate.”

The Morgan Stanley report ads that Eutelsat’s stock has been hit by investor uncertainty, with some abandoning what the bank describes as the “get rich quick” thesis of a near-term leveraged buy-out by canny Spanish investor Abertis. In other words, Eutelsat’s valuation now ignores the significant potential for growth

*“We think there is a clear buying opportunity for satellite stocks at present. We are consequently reiterating our Overweight recommendation on SES, and our price target of €20.5, and raising our rating on ETL from Equal-weight to Overweight, and increasing our price target from €19 to €19.5.”*

- Morgan Stanley

and long-term cash return, regardless of any potential Merger & Acquisition (M&A) activity.

Simon does not rule out further M&A activity in the satellite sector, but says: “If buyouts are to continue, they will likely be in sub-sectors of the market which are less risky, for those will be the assets which are mostly likely to be financeable at reasonable cost. We believe that satellites, with their highly visible revenue, cost and capex base, fall firmly into that category. Moreover, the LBO screens that we have run on ETL and SES have not assumed anything like the leverage that Intelsat now bears. On our estimates, SES, with 5.9x leverage, and at our target price of €20.5, would generate an equity return of 15-16 percent, which is well within the infrastructure bracket, while Eutelsat, at our target price of €19.5, and with the same leverage assumption, would yield c 19-20 percent. The difference between the two is explained by higher short term capex for SES, which has more replacement activity at present.”

SES is in even better shape and may qualify to be shortly included in Morgan Stanley Capital International’s World Index as being representative of the market. Inclusion would place SES as one of the world’s “must look” stocks, and, in the bank’s view, could considerably boost investor interest in SES.

A closer look at the two operators is justified, especially given that they’ve both just released quarterly statements with strong indicators as to their performance for the rest of the year. Luxembourg-based SES reported buoyant H1 numbers on August 6, along with a fill rate on its Astra satellites of an industry-leading 87 percent. SES’ president & CEO Romain Bausch painted an attractive picture for the satellite operator, saying they were “really pleased” with progress this year. SES revenues for its half-year to June 30 were up across the group. Importantly, SES is also raising guidance for the full year, “despite the weak-



ness of the dollar against the euro. We enter the second half of the year in a very healthy state".

However, his comments didn't impress the world's ratings agencies, who, one must suppose, had not fully digested the Morgan Stanley report! Standard & Poor's lowered its short-term rating from 'A-2' to 'A-3' and cut its outlook for SES to negative, saying the

changes were based on SES' more aggressive financial policy in particular to SES share buy-back plans.

Bausch reported:

- Revenues up 11 percent to €789.1m
- EBITDA up 10 percent to €548.2m
- EBITDA margin at 82.2 percent
- Operating profit up 7 percent to €299m
- Net profit up 8.5 percent (before exceptionals)
- Fleet utilisation 75 percent (74 percent last year)
- Backlog €6.2bn (€6.5bn last year)

SES is now carrying 27 HDTV channels and is targeting 100 HD channels by 2010. Bausch said that the UK model to date (with 9 HDTV channels) represented Europe's most successful high-def deployment. He predicted that Canal Plus would be making a major statement this autumn about their HDTV plans. He also saw more channels coming to German viewers with a "more aggressive" package from Premiere.

Bausch explained that 'entavio', its technology to encourage digital take-up in Germany, would launch in September with a portfolio of broadcasters, including Premiere, offering encrypted signals to subscribers. Pro7/Sat1 "and others" would be part of the bundle on offer, which would also include all of Astra's free-to-air channels from 19.2 deg E.

But it was the up rated guidance for H2 that generated most excitement, with CFO Mark Rigolle saying analysts could expect revenues up 1.75 percent for the year overall (compared with earlier guidance), and EBITDA at 2.1 percent better. Rigolle said business was good in all areas, across media and governmental business, as well as regionally.

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Bausch said SES was still looking at investing for growth, and this could include acquisitions which were "a firm part of our strategy... We continue to look at opportunities," he added. As regards new markets, he specifically mentioned Mexico, where SES has a joint venture (j-v) operation under discussion. He said he hoped to make an announcement shortly about a commitment to a new satellite for Mexico. Much the same applied to SES' j-v in Canada, where discussions were advancing well with Industry Canada and the launch of a Ciel satellite in 2009.

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He also commented on the need to maintain a reasonably high debt level (at 3.5 times net debt/EBITDA) and hinted that increased dividends, returning cash to shareholders, and even further share buy-backs, were all potential options for SES.

Bausch specifically highlighted the progress of New Skies Satellite, which had performed "beyond expectations... really excellent progress". In Europe he said Central and Eastern Europe still represented good opportunities for growth. He specifically mentioned Romania, currently blessed with a half-dozen rival DTH operators and where consolidation was likely. Meanwhile, New

## NEW CFO

Effective on September 17, 2007, Eutelsat has appointed Catherine Guillouard as CFO "in replacement of Claude Ehlinger". Born in 1965 and a graduate of the French National School of Administration (Ecole Nationale d'Administration), Mrs. Guillouard held a number of positions within the French Treasury Department (Direction du Trésor) before joining Air France in 1997. She has held a number of positions within the Air France Group and, since January 2005, occupied the post of Senior Vice-President, Finance.

Skies was looking aggressively at Africa, the Middle East and Central Asia for new business. Utilization on the New Skies fleet was 64 percent.

"The first half was marked by several key contract signings including a two-transponder, multi-year contract to provide internet trunking to French Polynesia; a single transponder, five year contract to Telikom PNG of Papua New Guinea for GSM backhaul services; and a contract to broadcast two new free-to-air DTH channels with STV of Cameroon in West Africa," said SES. "SES New Skies also concluded significant new contracts with Star One / Embratel for additional capacity on NSS-7 and NSS-806 and with Impsat on NSS-10 to support their fast growing VSAT Networks in Latin America. In addition, SES New Skies continued to expand its services to the United States government and other key government customers through several important renewals and new contracts in the Atlantic, European and Middle Eastern markets."

Adding to the SES portfolio is the upcoming launch of Sirius IV later this year from Baikonur, and targeting capacity over Europe and Africa. Astra 1M will follow in H1/2008, while AMC-14 is scheduled for launch this coming December (with its entire capacity booked by EchoStar). In total, SES has 10 satellites now under procurement, some as replacements, some adding new capacity or a mixture of the two.

Paris-based Eutelsat is a fierce competitor to SES, while at the same time happily cooperating with SES on a new venture. The new venture between the two rivals is in anticipation of the launch in 2009 of a satellite with an S-Band payload to supply programming to mobile telephony operators.

Eutelsat announced record revenues on July 26, and used the occasion



to confirm it will order a Ka-Band satellite, to be in position by 2010 and placed at 13 deg East, the operators 'Hot Bird' position. Eutelsat also revealed it would be changing its CFO in September. On a more positive beat, Eutelsat has almost doubled the number of HDTV channels it is carrying, up from 12 this time last year to 22 now, of which 17 are full commercial services, mostly to Italy, Poland and Russia.

## EU CLEARS SES-EUTELSAT J-V

SES and Eutelsat received the European go-ahead July 25 for their planned S-Band j-v. The two satellite players plan on launching an S-Band satellite service that would provide a gap-filler service for mobile TV, data and radio to cars and trucks. It would operate in the 2GHz-2.2GHz range.

"With respect to the provision of satellite-based infrastructure for broadcasting content to mobile devices ... customers would continue to have a sufficient choice of alternative infrastructures based on a variety of technical transmission standards," the EU executive said in a statement. This means that a planned "optimised" DVB-H service for satellite delivery can now go ahead once a satellite is in place, with services split into six spot beams covering zones of interest over Europe. A satellite should be in position around 2009.

CEO Giuliano Berretta said the new Ka-band craft would have "many, many spot beams" and he hoped the services would encourage new local TV services, similar to those in use in the USA ("local into local") as well as innovative new services. "We are very optimistic by Ka-Band," said Berretta. "We want to deploy our satellite to enable a 'triple play' by 2010." Berretta said attractive as broadband was, this was not the whole scope of the satellite. He cited the WildBlue service in the US as one example, but stressed that local TV, and also other professional uses, such as contribution and professional point-to-point service, would also find the extra capacity useful. Geographically, Berretta said that Ka-Band would offer concentrated services over Europe, the Mediterranean basin as well as the Middle East, down to and including the Gulf. "This satellite delivers another order of magnitude in terms of coverage," he said.

Berretta declined to be drawn into the current confusion over Hispasat's future, and whether it would remain a 'Spanish' satellite. He sidestepped the question, saying he could not add to what was a confusing situation. "We are a shareholder in Hispasat, and will stay a shareholder. We look at the developments but we are experts in satellite [operations], not politics. We are strong supporters of Amazonas 2, and remain very supportive, and like Hispasat."

One of Eutelsat's major announcements was the continued investment in 9 deg East (the EuroBird 9 slot) as a 'sister' spot to 13 deg East (the Hot Bird position). Berretta described it as developing into Hot Bird's "twin". Nevertheless, for consumers to receive signals from 9 deg E, they would need to install a new LNB (Low-Noise Blocker). This, said Berretta, Eutelsat would help to subsidise. The public would be assured an industrial boost for dual-LNBs to enter the market at the "same price as a single LNB". Eutelsat had helped develop an offset LNB that could even be self-installed without the need to alter the position of the actual dish, which was more difficult.

# COVER STORY

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Eutelsat's revenue growth of 4.8 percent was sustained by "strong momentum" in demand for video services, said Berretta, announcing the company results for the year to June 30. Revenues were up from €791m to €829m. Eutelsat's EBITDA numbers rose from €616.5m to €652.6m, and represented an EBITDA margin up 0.8 percent to 78.7 percent, which represented an "industry best," said Berretta. Its Hot Bird position was truly chock-a-block, carrying 1381 channels (with EuroBird) and overall a massive 2608 channel across the fleet.

This means that even Eutelsat's 'minority' and specialised services (on non 'hot' positions) such as W2, W3A, Atlantic Bird 3, Atlantic Bird 4, W4/Sesat, EuroBird 2, EuroBird 4 and EuroBird 9, were carrying 1113 channel between them – not such a minority!

The combined effect of these improvements in revenues meant that Eutelsat's consolidated net income almost quadrupled last year, from €40.2m to €170m. However, while transponder utilisation increased to 404 transponder (equivalents) from 373 this time last year, Eutelsat also recorded an unusual fall in backlog from €4bn to €3.7bn. This drop is due to Eutelsat's slightly higher average fleet age and that most long-term contracts are written for the lifetime of a satellite. As the fleet gets a little older, the average contract length gets shorter (in fact, from an average 7.7 years last year to 7.3 years this year).

Analysing Eutelsat's numbers, it is clear that video usage has shown the greatest increase (11.7 percent growth, and 72.2 percent of revenues) and data and value-added services have, again, seen a fall in demand (down 6 percent). However, there are a couple of projects that could represent a positive opportunity for Eutelsat: First, it is launching a service for business jet users based on D-Star with its 'office in the sky' solution. Second, Eutelsat is working with SNCF, the French national railway and others, to trial a "multimedia portal and internet access service" for railway users.

Fill rate for the Eutelsat fleet is currently about 80 percent, down fractionally on last year's 80.7 percent, but with an additional 43 transponders under its belt, no great surprise. Eutelsat is giving guidance of more than €840m in overall revenues for 2007-8, its new financial year which started July 1. EBITDA margin should be around 77.5 percent, says Eutelsat.

Andrea Maleter, senior researcher at Futron, predicts a near doubling of the world's transponders between now and 2016, from 5,000 to almost 10,000 transponders. She paints a buoyant future for European demand, at least for the period to 2012. SES and Eutelsat will both do well out of this growth.

## Editor's notes:

\*FCF is the acronym for Free Cash Flow. This is the cash flow after interest, tax and replacement investment. FCF may also be measured in other ways, eg after all investment.

\*\*CAPEX refers to capital expenditures added to an asset account, thereby increasing the asset's basis. An allowance for use of a company's cash flow for CAPEX is often made by lenders.

# FOLLOW-UP

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## JOHN MATTINGLY

*President of Satellite Services MSV*

by Hartley Lesser

*You may have recently read in Satnews Daily about Mobile Satellite Venture's new Custom Capacity Service. Considering this move is rather unique, I spoke with John Mattingly, president of satellite services for MSV, for some additional information. Here is that discussion.*

**Q:** Good day, Mr. Mattingly. Recently, Mobile Satellite Ventures (MSV) announced a Custom Capacity Service. I believe this is the first time such customization has been made available to customers of satellite bandwidth. First, why did you feel it was important to offer CCS as a service option?"

**A:** The launch of our Custom Capacity Service™ is a response to demands of the market and customer needs. Other MSS providers do not have the flexibility or capability to offer similar services. MSV plans to launch two of the most powerful commercial satellites ever built that will enable our network to support communications in a variety of new ways. Custom Capacity Service™ is a revolutionary new way of offering guaranteed, tailored, flexible, and long-term satellite capacity to customers.

**Q:** I see... as is the case with most company moves, timing is everything. Why now? Why didn't you wait until the new MSV satellites are on orbit? Did you feel some competitive pressure in order to come up with something new to attract new clients and to improve service to continuing customers?

**A:** MSV believes there is a solid market for the limited amount of Custom Capacity Service™ that we can provide. Customers looking for long-term capacity expressed a desire to begin discussions now.

**Q:** Considering MSV was the first to receive a patent on ancillary terrestrial component (ATC) technology, it would seem the company focus is shifting from ATC to CCS. Is this true? What's going to happen to your hybrid satellite terrestrial ATC network?

**A:** MSV is continuing to move forward aggressively to create its hybrid, ATC plus MSS, offerings. MSV's Custom Capacity Service™ does not impact on its planned hybrid satellite-terrestrial communications network. Custom Capacity Service™ rounds out MSV's product portfolio and will complement our other services.

**Q:** You indicate continued support for both ATC and CCS. Is there truly enough satellite capacity and resources to support both avenues and does your company have the resources to?

**A:** The simple answer is YES. The bulk of the new MSV satellites' network power is reserved for hybrid services. There is more than adequate satellite capacity to support both MSV's hybrid satellite-terrestrial network as well our new Custom Capacity Service™. Also, I want to remind your readers that MSV's next generation satellites are two of the biggest, most powerful commercial satellites ever launched with sufficient capacity and power to achieve MSV's business objectives. ■

## GROWING ASIAN HDTV THE MEASAT WAY

by Peter I. Galace

For broadcast operators and media consumers worldwide, high definition TV (HDTV) is hot—really hot.

By the close of this year, research firm Digital Entertainment Group (DEG) predicts more than 52 million homes will have HDTV. That's 36 percent of all U.S. homes. Analysts predict HDTV growth has been far faster than originally forecast, driven largely by the frantic market race by satellite pay TV providers DirecTV and EchoStar.

With the launch of its DirecTV-10 last July and the impending launch of DirecTV-11 later this year, DirecTV will have the capability to broadcast HDTV to 90 percent of its U.S. customers. DirecTV expects to offer 100 HDTV channels by year's end.

The HDTV picture looks even better in Western Europe. By 2010, Western Europe is projected to account for 60 percent of all expected HDTV households. From a mere six HD channels in 2005, Europe at the end of 2006 fielded 36 HD channels. By 2010, that number is expected to jump to 160 channels with an audience of more than nine million households.

IMS Research indicates the growth in satellite HDTV households will be driven by the US and Western Europe until 2010. Much of the growth will be fueled by lower costs for MPEG-4 Advanced Video Coding (AVC) set-top boxes for both operators and consumers, more local HD content, better competitive pricing for HD services, the growing popularity of flat-screen TVs and sports-driven demand for HDTV.

Where exactly is Asia in this rosy state of affairs?

Right smack dab in the middle and growing fast, thank you. HDTV growth in the Asia-Pacific exceeds Europe's, but only until 2011. Europe is expected to surpass Asia-Pacific at that point to become the second-largest HDTV market in the world behind the Americas.

# FEATURES

(Continued From Page 11)

Asia's situation has sufficient room for growth, especially on the operator side. Malaysian satellite operator Measat Satellite Systems' Sdn Bhd believes the High Definition (HD) video sector has strong potential across the wider Asia-Pacific region.



*Measat Antenna Farm*

Measat CEO Paul Brown-Kenyon noted that while HD has established itself across some of Asia's leading media markets (such as Japan, Hong Kong and Singapore), it has failed, so far, to achieve traction across much of the region.

"Given this situation, Measat is working with a number of partners, including Ascent Media, Pacific Century Matrix (PCM), Scientific Atlanta and Tandberg, to help create the conditions for the market to develop," he said.

"We are doing this through the development of a complete end-to-end HD solution that leverages the latest compression technology to enable flexible and cost-effective distribution. The platform's design addresses content acquisition, MPEG-4 compression, encryption, uplink and content distribution via satellite with existing broadcaster content being acquired, converted into MPEG-4 format and encrypted before being uplinked to satellite for distribution across the region."

This past July, Measat launched its HDTV Distribution Platform to meet the needs of international broadcasters distributing HD content across the wider Asia-Pacific region.

Brown-Kenyon pointed out that HD content has established a foothold in the more developed media but has not extended much further than that, for the following reason, "We believe the reason for this is three fold: less developed media markets (compared to North America and Europe) with lower consumer awareness; a diverse region with strong preference for local content; and a shortage of transmission capacity to support the bandwidth hungry HD content. These roadblocks limit the ability pay-TV operators and content providers have to develop a viable HD segment."

For its initial HD service, Brown-Kenyon said Measat we will be using its recently launched Measat-3 satellite. The satellite, which provides 24 C-band transponders at the 91.5E orbital location, is able to distribute content across 110 countries through a single, high-powered, C-band beam.

"Capacity for the HD services will be further expanded in 2008 with the launch of the Measat-1R satellite into the same orbital location. Co-located with Measat-3, Measat-1R will provide an additional 12 transponders, allowing customers to expand their services without having to expand their ground facilities. The launch of Measat-1R next year will also introduce satellite redundancy into the Measat systems."

September 2007





*Measat Teleport & Broadcast Center*

In late July, Measat finalized a \$381 million agreement with Astro All Asia Networks Plc's subsidiary, Measat Broadcast Network Systems Sdn Bhd, for the utilization of Ku-band transponder capacity on Measat-3.

Under the agreement, Measat will provide Astro with as many as 13 Ku-band transponders on Measat-3. This represents more than one quarter of the satellite's communication capacity. Brown-Kenyon said the Ku-band payload was designed to support direct-to-home

(DTH) operators across Malaysia, Indonesia, and South Asia.

Astro said that with the enhanced capacity of Measat-3, the company has been able to introduce numerous new services, including new channels and Astro-on-Demand. Customers can look forward to more new services over the next 12 months.

Brown-Kenyon stated that 13 other customers were now leasing capacity on the Measat-3 satellite, including Radio Televisyen Malaysia, TV3, Ho Chi Minh City Television, Celcom, and BBC Worldwide.

"We are delighted by the initial take-up of capacity on the new satellite. Having reached almost 50 percent utilization, we expect the satellite to be operating close to capacity by yearend," he said.

With the Asian HDTV market still in its infancy, Measat sees the need to collaborate with leaders from each element in the value chain to develop an initial business model as well as build a HD neighborhood on Measat-3.

"While the solution we are working on does not address all these 'roadblocks' to the development of a strong region wide HD industry, we believe it will help to jump start the development of a market in the region," noted Brown-Kenyon.

Wee Way Kiat, managing director of Ascent Media Network Services Asia, noted that, until now, the distribution of HD content has been unable to meet bandwidth and compression expectations. "As a provider of playout services to key broadcasters in Singapore, this has been a crucial step in the development of an HD workflow. We are now able to drive the transition to HDTV forward in Singapore and across the region."

"Being a vertically integrated company providing a diversity of solutions to premium broadcasters, PCM is in a unique position to offer customized HD solutions (both technical and commercial solutions) to HD broadcasters expanding into Asia, in a most cost-effective manner. If the playout is overseas, we have access to global fibre networks to bring our HD platform virtually to the customer's broadcast center," said Guenter Kring, CEO of PCM.

"We have been a front-runner in utilizing the most advanced and reliable technologies for our customers' commercial gains, and together with our long-standing partner Measat, we are committed to facilitating the rapid growth of HD channels in Asia."

## FEATURES

*(Continued From Page 12)*

Brown-Kenyon said that with the successful launch of Measat-3 at the end of 2006, Measat is primarily focused on building the customer base on the new satellite. He revealed that at the end of the first quarter in 2007, over 30% of the capacity on Measat-3 had been leased. The same customers have already committed to an additional 25% over the next few years.

"As an example, we recently finalized agreement with Astro, Malaysia's DTH platform, for significant amount of Ku-band capacity on MEASAT-3 over the 15 year satellite life."

In addition to Measat-3, the company is also working on the new Measat-1R satellite to provide additional satellite capacity at the company's key 91.5°E orbital location, and on the Measat-5 satellite, which will extend the reach of the Measat network into the African region.

Measat's current strategy is focused on building scale at the 91.5E orbital location and expanding the reach of the network. Measat-5 is a key part of that strategy. To be launched in the fourth quarter of 2009, the satellite will provide high-powered C and Ku-band coverage over Africa and the Middle East and will extend to areas of Southern Europe.

Measat-3 was launched successfully on December 12, 2006 from the Baikonur Cosmodrome in Kazakhstan. The launch event was broadcast live via satellite in Malaysia.

Measat-3 was launched on board an ILS Proton M/Breeze M with a five-burn to orbit sequence. It entered commercial service in January 2007 at a geostationary orbit of 91.5 degrees East (co-located with Measat-1). The C-band and Ku-band beams cover geographically remote areas such as Sabah, Sarawak, and northern India and expands the Measat fleet's coverage to more than 100 countries embracing Australia, Middle East, Eastern Europe and Africa.

Measat ordered Measat-3, a Boeing 601HP satellite, in March 2003. Measat-3 joins the existing Boeing-built Measat-1 and Measat-2 spacecraft in the Malaysia-East Asia Satellite (Measat) system.

Satellites will become the most important mode of receiving HDTV programming over the next four years, said IMS. The research firm forecasts the global HDTV market to reach almost 150 million households by 2011, with some 40 percent of these households receiving HDTV programming via satellite.

In Western Europe, the slow growth of digital cable in recent years has helped position satellite as the most common method of receiving pay-HDTV. Recent consolidation of the cable TV markets in several countries is expected to aid European cable HDTV growth over the long term.

Satellite is still expected to make substantial gains in the US, thanks to focused marketing efforts by US satellite operators to push HDTV as a competitive differentiator. ■

# FEATURES

## SATCON

### *The Convergence of Content and Communications*

by Hartley Lesser

What an awesome paradigm! Certainly a pattern of thought currently in vogue as well as the way of things yet to come in our industry.

Convergence, an evolutionary event happening within two independent sequences, a change, an alteration of “what was” to “what is” and “what will be”. How to get a handle on exactly how you should both address this movement and become involved in its real-world application? Rather simple, actually...

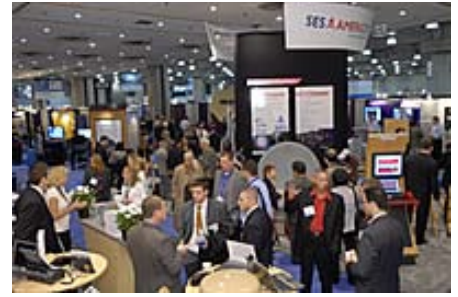
Enter SATCON, the 6th annual Conference and Expo, “Where Content and Communications Converge”. This exposition couldn’t have arrived at a better time... October 10th and 11th at the Jacob K. Javits Convention Center in New York City. With new technologies assaulting us at blinding speed, we all need help in mastering our special piece of the convergence puzzle. Certainly a single individual cannot know all... which is why an exposition of this magnitude and breadth is so important to the development and success of our business goals.

This is the 6th SATCON, the Satellite and Content Delivery Conference & Expo, and exposed to everyone’s perusal is a broad range of video, voice, data and IP communications solutions. There’s no exclusionary rule here — whether you work within the media and entertainment, military, government, telcos or enterprise firms, SATCON should be a stop overnoury to success.

Included in the exposition is a conference program where real-world examples of how others are “converging” will be offered for your edification. Learn about cutting edge satellite, fiber, IP, wireless and hybrid networks that will help you make a difference—to ensure you compete on a level playing field in today’s technologically rich world. More than 75 speakers will address topics such as:

- Media & Entertainment, Broadcast & Cable
- Military, Defense and Homeland Security
- Federal, State and Local Government
- Telcos & ISPs
- Utilities
- Education & Training
- Emergency Response, Relief and Non-Governmental Agencies
- Government Contractors
- Service Providers, Integrators and Resellers
- Retail & Hospitality
- Financial, Banking & Insurance
- Energy, Oil & Gas
- Manufacturing & Automotive
- Healthcare & Pharmaceuticals

- Maritime & Shipping
- Transportation & Fleet Management



Phew, this is going to be total immersion in the information you require to handle all aspects of your business. And you can bet you’ll also learn how to manage such implementations in the most cost effective manner—music to the ears of your CFO!

SATCON 6 runs from Wednesday, October 10th, through Thursday, October 11th. Registration opens at 8:00 a.m. on both days. A full schedule of events is available for your perusal at [www.satconexpo.com/eventschedule.asp](http://www.satconexpo.com/eventschedule.asp). Plan your time wisely, from attending the Fundamentals of Satellite Communications, Part 1, begins at 8:00 a.m. on Day 1 and continues with Part 2 at the same time on Day 2.

The Opening Remarks and Keynote on Day 1 begin at 9:00 a.m. with an outstanding list of company leaders and subject-matter experts:

- Dan Goldberg, President & CEO, Telesat
- Ed Horowitz, President & CEO, SES American
- Pradman P. Kaul, President & CEO, Hughes
- David McGade, CEO, Intelsat
- Andrew Sukawaty, Chairman & CEO, Inmarsat
- Susan Irwin, President, Irwin Communications

For the Government and Military Keynote address, the speaker is:

- Vice Admiral Nancy E. Brown, Director, Command, Control, Communications and Computer Systems (C4 Systems), The Joint Staff.

The Conference Sessions present topics sure to create interest from show attendees. You don’t need to imagine what they will be just visit [www.satconexpo.com/sessions\\_byDay.asp](http://www.satconexpo.com/sessions_byDay.asp) and read for yourselves all of the goodies being prepared for your ears.

The list of exhibitors at SATCON is a veritable WHO’S WHO in our industry... here’s the link: [www.satconexpo.com/exhibitors.asp](http://www.satconexpo.com/exhibitors.asp) to wow you with companies showing their wares.

And, last but far from least, let us not forget the two terrific events that are part of SATCON 6. On Wednesday, October 10th, starting at 5:00 p.m., it’s the Grand Opening Reception on the Exhibit Floor. Meet and greet, enjoy a libation and make your plans for the evening.

To register for SATCON 6, visit [www.satconexpo.com/register.asp](http://www.satconexpo.com/register.asp) and, go ahead, sign up!

On Thursday, October 11th, from 4:30 until 5:30 p.m., the Closing Reception is also on the exhibit floor. What a great time to unwind before grabbing your bags, finding a taxi or limo, and heading back to the airport for your flight home where you can put to use all of the wonderful convergence information you’ve heard and seen. Success to all, with appropriate thanks to SATCON 6 for proving the paradigm is not hyperbole, but FACT!

# SATELLITES' GOLDEN ANNIVERSARY

*All Eyes on WRC-07*

by Tara Giunta

This year, we are celebrating the 50th anniversary of the "satellite industry" which began with the launch of the first satellite (Sputnik) by the former Soviet Union in October 1957. Using satellites to facilitate communications was, of course, the brainchild of the visionary, Arthur C. Clarke, who discovered that a satellite located in an orbit 36,000 km above the Earth would travel at the same speed as the rotation of the Earth and would establish a stationary line of sight with the Earth, e.g., would be geo-stationary. While Sputnik was not launched into geo-stationary orbit, it triggered a space race between the U.S. and the former Soviet Union, with the U.S. launching the first geo-stationary satellite, Telstar 1, on July 10, 1962.

In response, President Kennedy characterized the Telstar launch as "an outstanding example of the way in which government and business can cooperate in a most important field of human endeavor." That history of public-private partnership has remained a hallmark of the satellite industry, most notable in the areas of spectrum allocation to new satellite services and regulations that enable the development and deployment of those services.

Over the past 50 years, the satellite industry has relied on government regulators to develop policies, standards and procedures that have resulted in the establishment of today's dynamic global satellite sector. According to a June 2007 study issued by the Satellite Industry Association, world satellite industry revenues exceeded US\$106 billion in 2006, representing a 19.5 percent revenue growth between 2005-2006 (up from 7.4 percent (2004-2005)). One observation of that report was that changing regulatory regimes in certain key markets were contributing to that growth.

Coordination and allocation of spectrum among the various services and global needs remains critical to the satellite sector and has recently taken on added significance. This Fall, the International Telecommunication Union's (ITU) World Radiocommunication Conference (WRC-07) will be particularly contentious as the satellite sector battles against accelerating pressure to re-allocate portions (or all) of the C-band to terrestrial services such as broadband wireless access and WiMax. Agenda item 1.4, which will address future spectrum needed for development of these wireless services, has galvanized the satellite industry, which has been imploring regulators around the globe to consider the potentially devastating results of such encroachment on the C-band.

Indeed, many countries rely on C-band for vital communications services, such as distribution of video programming for cable television systems, backhaul communications, redundancy for fiber systems, interconnection and cellular trunking. Satellite-delivered services are even more critical for those countries that suffer from under- or un-developed terrestrial networks (wireline or wireless) and/or topographical considerations (such as high rain zones or large land masses) where such alternative networks are not available, limited in scope and quality or uneconomical.

## FEATURES

Many of these countries rely on C-band satellites for vital services such as distance education, tele-medicine, financial services and more. Further, significant advanced time and resources are needed to design, finance and construct satellite networks – satellites have design lives of 15 years and cost millions of dollars. Therefore, there will be significant stranded investment over a period of years in the satellite industry if WRC-07 results in a reallocation of the C-band.

While many believe it unlikely that WRC-07 will result in a wholesale reallocation of the C-band, it is unclear whether, or to what extent, there may be some encroachment on the band. While historically regulation tends to protect existing allocations (particularly where they are providing vital services), regulators in general have demonstrated a willingness to move incumbents out of a band or to require band sharing in the interest of supporting new technologies and/or facilitating better spectrum efficiency. Therefore, as the satellite industry advocates against an intrusion into the C-band at WRC-07, it must be poised to address substantively the allegation by those seeking band access that there is an inefficient utilization of the C-band.

As we approach the satellite industry's 50th anniversary, we find an industry enjoying renewed vigor (having weathered the particularly daunting period from the late 1990's until the mid-2000's), but is also facing challenges. All efforts in the satellite industry are focused on WRC-07 and protecting the C-band. Indeed, WRC-07 may well dictate the next 50 years of the satellite industry.



Tara Giunta is a partner of the Washington, DC office of Paul, Hastings, Janofsky & Walker LLP. Ms. Giunta has extensive experience in advising clients operating in, providing services to, and/or financing companies in the satellite sector. She has expertise in structuring international satellite projects and developing and implementing strategies for commercializing those projects on a global

basis. This includes structuring strategic alliances, partnerships and joint ventures; negotiating the full range of commercial contracts; structuring projects to accommodate legal and regulatory requirements and obtaining required licenses and authorizations; and conducting due diligence, internal audits and compliance investigations and advising clients and their officers and directors on compliance in a broad range of areas, including regulatory and licensing and the foreign corrupt practices act and related laws.

Ms. Giunta received her J.D. at Columbus School of Law, Catholic University in 1986 and her B.A., cum laude, at Tufts University in 1980. Ms. Giunta is Legal Council to the Pacific Telecommunications Council (PTC) and is active in many other industry organizations.

# CASE STUDY

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## SATCOMS HELP WELSH ELECTRICITY PROVIDER STAY CONNECTED

by Chris Watts

International satellite communications provider NSSL is assisting the Welsh electricity company E.ON to remain in contact with all of their remote facilities. The E.ON power plant is located in Aberystwyth, Wales. However, the hydroelectric plant and the wind



farms, which generate the power, are located in areas with no GSM (Global System for Mobile communication) coverage. As a result, E.ON maintenance staff make use of three Iridium handheld satellite phones (satphones) in order to 'hop' from job-

to-job. The satphones are also used to call for support, should anyone get lost in the Welsh countryside or encounter a medical emergency. Certainly this scenario challenges the generally held belief that satcoms are only used commercially in economically underdeveloped regions, such as Africa.

NSSL is an independent service provider that offers satellite communications solutions and is one of the top Inmarsat service providers worldwide. NSSL advised E.ON to use Iridium satellite phones for communication with the maintenance teams at the wind farms and the hydroelectric plant. Specifically:

- **Wind Farm:** E.ON has two wind farms located in Rheidol (12 miles away from the power plant) and Cefn Croes (96 miles away in distance). Both of the wind farms are in extremely isolated regions with no GSM coverage
- **Hydroelectric plant:** The physical hydroelectric plant only covers a small geographical space. However, the water catchment's tributaries and aqueducts, which lead into the main reservoir, and all remote monitoring equipment, occupy an area of some 160sq kilometers. These water pathways must remain unblocked. To ensure their critical flow is unobstructed, E.ON fields a mobile staff of 10 maintenance professionals who patrol this entire area. They use the Iridium satphones to remain in contact with the main station control room.





E.ON purchased three Iridium 9505A satellite phones. Their cost was £750 per unit. The Plant Manager at E.ON explained why they decided to purchase the satphones, "The Iridiums are truly fantastic. They are small, light, and extremely rugged, making them perfect for the inhospitable

Welsh countryside." He went on to say, "The phones serve two functions. First, they ensure we can keep in contact with our maintenance staff wherever they are, which is very important from a safety point of view. Secondly, the phones have allowed our staff to 'call in' at the beginning and end of a job, meaning we can maintain a log of staff locations, and direct them to other jobs without them having to return to base. Obviously, this is a much more time and environmentally friendly approach."

Danielle Edwards, Product Marketing Manager at NSSL commented: "E.ON's use of satellite phones really challenges the misconception that satcoms are only used in places like Africa, Asia, and Antarctica. The reality is that 70 percent of the earth's surface is without GSM service. There are big coverage gaps in major industrialized nations such as the UK and USA. These gaps can be served by satellite solutions such as those provided by NSSL." ■

#### **About NSSL**

NSSL, established in 1969, offers a wide range of communication services, as well as extensive experience with systems integration and application development. The company's focus is on the maritime, government, energy, media, finance and corporate sectors, providing voice, data and broadband solutions anywhere in the world.

The company website:  
[www.satcom-solutions.com](http://www.satcom-solutions.com)

## CASE STUDY

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# EVENT PROFILE

## DAVID BROSS

*Interview With ISIS NYC '07 Chairman*

by Hartley Lesser

*David Bross is the Chairman of ISIS NYC '07 and is part of the Hannover Fairs team producing a variety of events around the world. I managed to catch David in between his busy schedule to ask him about one of the key events in October of this year in New York City.*

**Hartley**—"David, on October 9<sup>th</sup>, a highly regarded financial symposium named ISIS is going to occur. There are dozens of "important" and "must attend" conferences, symposiums and exhibitions. Why is ISIS an important event?"

**David**—"The ISCe Satellite Investment Symposium (ISIS) NYC '07 is the only independently produced, executive level, one-day program. The symposium focuses solely on the \$106 billion satellite communications finance marketplace. High profile executives assemble from satellite finance, radio, television, broadcasting, mobile video, fixed and mobile satellite services, IPTV, broadband via satellite, as well as leaders from the satellite industry, media legal and Wall Street community. ISIS NYC '07 was launched with our co-founders, The Carmel Group and NSR."

**Hartley**—"Why was ISIS started? What was the impetus for the conference's start?"

"ISIS NYC '07 filled the void left in the marketplace when the Satellite Broadcasting and Communications Association (SBCA) folded its SkyFORUM event more than two years ago. Since that time, there has been no annual conference held in New York (for the benefit of Wall Street analysts, traders and bankers) devoted solely to this marketplace."

**Hartley**—"What is the relationship with Hannover Fairs? Are there other important exhibitions member of the satellite community should know about?"

**David**—"Hannover Fairs USA is the producer of the event. ISIS 07 is a sister event to the other shows in our satellite portfolio, including ISCe 2008 and ISCe India."

**Hartley**—"How are ISCe and ISIS interconnected? Is one more specialized than the other?"

**David**—"ISCe is Hannover Fairs annual international conference and exhibition that occurs every June in San Diego and the focus is on the booming market for satcom services in the government and military sector as well as examining the hybrid nature of networks being implemented by companies. ISIS NYC '07, an official ISCe event, was launched to address the specific financial information needs of Wall Street's relationship with the global, commercial satellite industry."

**Hartley**—"Certainly the ISCe is a highly focused event and seems to me to be of particular interest to company executives. Who are your guest speakers and why were they selected?"

**David**—"I select the moderators for this event based on their ex-

pertise in certain areas of satellite finance and or their market concentration. The moderators, in turn, select the speakers for their panels on an invitation-only basis. This ensures a relevant and high caliber of speaker. And speaking of which, here is the list of outstanding subject matter experts who have already confirmed their presence for the October 9<sup>th</sup> event...

- Christopher Baugh, President - NSR
- Hoyt Davidson, CEO - Near Earth LLC
- Matthew Desch, Chairman & CEO - Iridium Satellite LLC and CEO - Iridium Holdings
- Jeffrey P. Freimark, CFO - Intelsat
- Evie Haskell, Vice Chair & Editor-in-Chief - Media Business Corp.
- Michael Huitt, Director of New Technologies - ABC News
- Harry Jessell, Editor & Publisher - TV Newsday
- Pradman Kaul, President & CEO - Hughes
- Robert Kisilywicz, CFO - SES Americom
- Robert Kubbernus, CEO and Chairman - Balaton Group Inc.
- Andrea Maléte, Technical Director - Futron Corp.
- John Mattingly, President, Satellite Services - Mobile Satellite Ventures (MSV)
- Craig Moffett, Vice President and Senior Analyst, U.S. Cable and Satellite Broadcasting - Sanford C. Bernstein & Co.
- Mark Rigolle, CFO - SES Global
- Robert Ross, Vice President, East Coast Operations - CBS Corp.
- Ron Samuel, Chief Operating Officer - Eutelsat Inc.
- Jimmy Schaeffler, Chairman & CSO - The Carmel Group
- Dr. Delbert Smith, Senior Telecommunications Counsel - Jones Day
- Benjamin Swinburne, Senior Analyst - Morgan Stanley
- Thomas W. Watts, Managing Director and Senior Research Analyst - Cowen and Co.

**Hartley**—"What may we expect at this event? A lot of walking?"

**David**—"As this is a financial symposium, attendees will have access to every panel session. These information-packed sessions are consecutive rather than concurrent. Attendees can speak directly with the leaders in the industry before, during, and after the discussions. There will be no product lines present, no booths, no exhibition. This is strictly a financial conference with no exhibition component. A truly focused event."

**Hartley**—"Information on registration and exhibiting at ISIS, what is the best way to complete the forms and so on. And whom should interested folk call for further details."

**David**—"Those wishing to attend the event should visit the website at: [www.isis-nyc.com](http://www.isis-nyc.com), click on the registration button and fill out the registration form. Fax that form to our registration department. Their registration and badge will be waiting for them at the venue, which is The Princeton Club, 15 West 43rd Street (between 5th and 6th Avenues), in midtown Manhattan."

**Hartley**—"Thanks for your time, David. I know how busy you are, especially as you get ready for ISIS 07. We look forward to seeing you in New York."

David Bross is Chairman of the ISCe Satellite Investment Symposium (ISIS) NYC '07 and ISCe 2008. He also serves as Director of Business Development for Hannover Fairs USA, Inc. Before he joined Hannover Fairs, Bross was the regional sales director and director of business development for Space News International.

## **SOLUTIONS FOR: PACKET PER SECOND SATELLITE THROUGHPUT LIMITATIONS**

by Dr. Graham King

All IP routing devices have a limit often overlooked when planning a network, especially when designing a voice and data network using satellite modems with IP interfaces. All modems using IP are a form of router. All routers have a limit to the number of packets per second (PPS) they can switch.

For many IP satellite modems the PPS throughput can be around 700 PPS. For a data-only system, this is rarely a problem. IP data-only networks normally have large packets traversing them. If the packets are close to the MTU<sup>1</sup> size, even a 1Mbps link only supports 86 PPS. A fully utilized 1Mbps link with packets averaging 25 percent the size of the MTU still has a packet throughput well below the modem limit.

When compressed voice is brought on to the network, an often-unanticipated problem occurs. Compressed voice packets are small, especially when compared to the MTU size. Excluding the LAN header, a G.729A codec<sup>1</sup> generates fifty, 60-byte packets per second for each voice call<sup>2</sup>. With as few as ten voice calls, a satellite

modem can approach its PPS limit. With fifteen calls, many satellite modems will have exceeded the PPS limit, even though the bandwidth required to support these calls is less than 512Kbps.

The issue is further compounded by what happens to voice quality when the PPS limit is exceeded. In most cases, the satellite modem discards the excess packets. Unlike data, because voice is a real-time application, voice packets cannot be usefully re-transmitted—the packets are lost. This causes severe voice quality degradation. The voice calls become “choppy”. Gaps are introduced into the audio stream. This is unacceptable to most users and gives rise to the belief that VoIP over satellite is a poor substitute for normal telephony. Similar effects may also be encountered if voice is not given prioritization on a mixed voice and data connection.

Companies such as NSGDatacom provide a solution known as Frame Packing. Frame Packing addresses this problem by combining many small packets into larger ones. This allows multiple voice calls to be supported by each packet. The number of packets per second transmitted through the satellite modem are effectively reduced.

# FEATURES

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(Continued From Page 19)

The Frame Packing mechanism operates by maintaining separate queue buffers for each voice and data stream. When building outbound IP packets, each queue associated with a specific destination is examined for voice (or data) packets. If there is a packet in an appropriate outbound queue, unnecessary header information is stripped. The payload is placed into an outbound “Super Packet” for transmission. This continues until either 1 all the queues have been examined, or 2 the MTU size has been reached.

The diagram 1 on page 21 illustrates this process.

Operating results displayed in diagram 2 (page 21) the bar chart below clearly illustrate how the benefits of Frame Packing can be very significant when compressed voice is introduced onto a satellite network.

The first two columns illustrate how the use of uncompressed PCM (G.711) voice, as deployed by a number of widely used VoIP services today, is barely affected by the modem PPS limitation on a 1Mbps satellite link. In this case, the addition of Frame Packing allows the number of voice calls to be increased from 11 to 13, in both instances filling the link to capacity without hitting the modem packet throughput limitation. The useful (18 percent) advantage provided by Frame Packing in this example is due to efficiency gained from eliminating unnecessary packet overhead in the Super Packet. (Note that a 20ms sample rate is assumed here. If a 10ms sample rate is used, the number of calls supported without Frame Packing is only 7 and increases to 13 with Frame Packing).

The last three columns reveal a completely different story. The high rate of small packets generated by standards-based G.729A VoIP quickly saturates the PPS capability of the satellite modem. A maximum of only 14 voice calls can be supported over the 1Mbps satellite link before the modem PPS capability is exceeded. That leaves more than 50 percent of the link capacity unused and unavailable to the user. The next column illustrates that by using Frame Packing and standard RTP (Real Time Protocol) header compression, the number of voice calls is more than doubled. The link is filled to capacity without approaching the modem's PPS limit.

The final column reveals how High Density Frame Packing extends this advantage even further; allowing the number of standards based VoIP calls to be more than doubled again, without any increase in the number of packets being transmitted.

The chart clearly highlights a major benefit of High Density Frame Packing—minimizing the packet overhead on the satellite link. In standard VoIP packets, the compressed voice payload is normally much smaller than the packet overhead itself, so that approximately two-thirds of the link capacity is lost to the headers<sup>iv</sup>. By packing just the payload of these small packets into a larger packet and regenerating the header information at both ends of the link, the loss due to headers is minimized and link efficiency is substantially increased. (Note the advantage gained using RTP header compression<sup>v</sup> only is minimal by comparison).



The High Density Frame Packing solution of NSGDatacom's Nx2200 Series Products uses patented techniques to combine multiple voice and data packet streams into fewer, larger packets, all optimized for the modem MTU. Tightly integrated voice gateway and Frame Packing functions enable enhanced capabilities that further extend the service capability of satellite modems with PPS limitations. These include:

1. Automatic priority of voice over other data traffic
2. Allow unused portions of Super Packets to be used for other data
3. Additional compression techniques to further increase voice capacity beyond the above examples

Although not widely published, the PPS limit for a satellite modem must be taken into consideration when designing high quality VoIP and mixed voice/data networks. Frame Packing solutions overcome packet throughput limitations and extend the capability of many low cost satellite modems. Such ensures the highest quality service for the maximum number of calls.

When implemented with NSGDatacom's patented voice compression and High Density Frame Packing techniques, the Nx2200 provides the user with a unique, cost effective implementation of voice and data over satellite.

# FEATURES

(Continued From Page 19)

**Diagram 1**



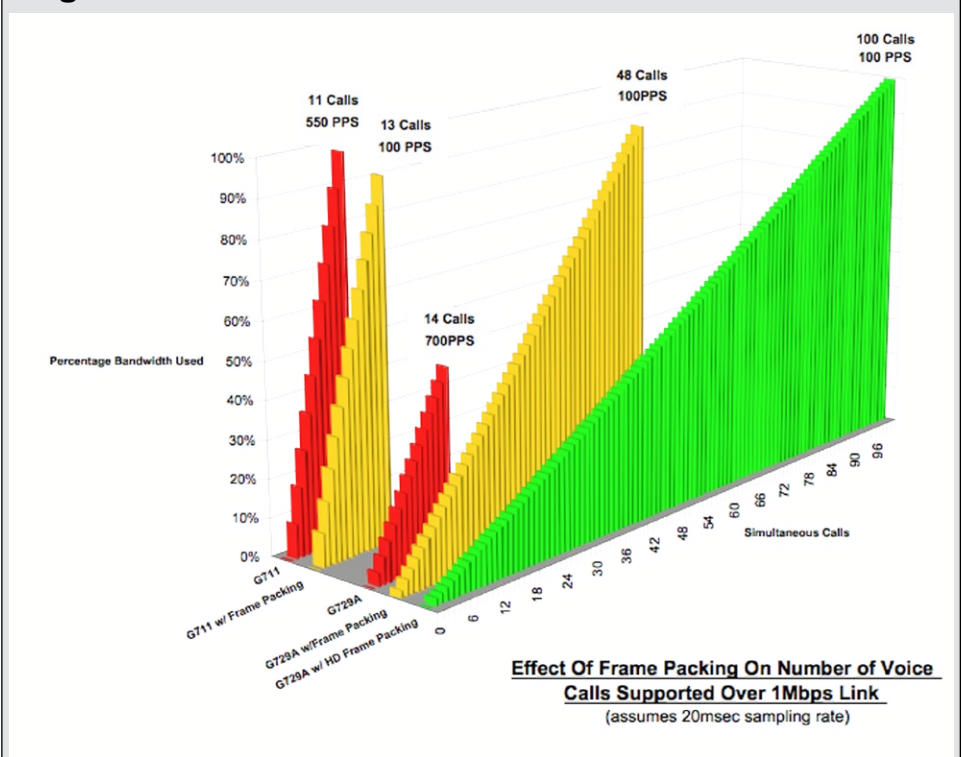
## (Endnotes)

1. This is a common codec used for SIP VoIP.
2. 20msec sample rate.
3. IP, UDP, RTP and LAN encapsulation adds 58 bytes to the 20 byte G.729A payload. VLAN adds a further 4 bytes of overhead
4. As defined in RFC2508 the RTP header is compressed from 12 to 4 bytes.



Dr. Graham King is President and chief technology officer of NSGDatacom, Inc., a leading provider of innovative telecommunications voice and data products for bandwidth optimization, network management, and disaster recovery, with a focus on satellite applications.

**Diagram 2**

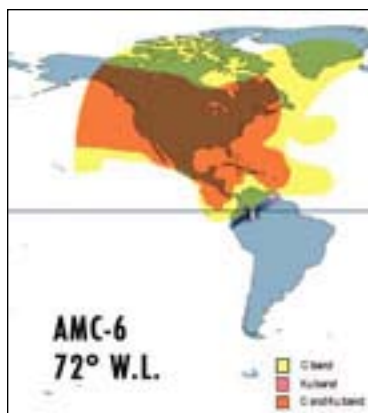


# FEATURED SATELLITE

## SES AMERICOM AMC-6

by Hartley Lesser

One of the most significant on orbit satellites for **SES AMERICOM** is the company's fifth hybrid C/Ku-band satellite, **AMC-6**.



A hybrid satellite is extremely versatile as the spacecraft offers two distinctive communication payloads.

Located in the eastern part of the United States orbital arc at 72 degrees W.L., this member of the AMERICOM fleet is highly attractive to a broad range of customers, thanks to its wide area coverage and high levels of redundancy.

Clients include customers in the media, with VSAT networks, government, video/SNG (satellite news gathering), and Internet service integrators.

This satellite was launched on October 22, 2000 via a Proton K/Blok DM rocket. With a design life of 15 years, the coverage area includes CONUS, Canada, Mexico, the Caribbean, and Central America.

The C-band payload is 24 x 36 MHz with a SSPA, 20-watt amp type with a redundancy of 16 for 12.

The Ku-band payload is 24 x 36 MHz; 4 x 72 MHz, with a TWTA, 110-watts amp type and redundancy of 18 for 14.



The AMC-6 Ku-band digital assignments are as follow:

		MHz	Vert / Up	Horz / Down
<b>AMC-6</b> (72° WL)	K2B	18.0	14049.00	11749.00
	K6A	5.5	14104.75	11804.75
	K6B	5.5	14110.25	11810.25
	K6C	7.0	14116.50	11816.50
	K6D	18.0	14129.00	11829.00
	K18B	9.0	14355.50	12055.50
	K18C	9.0	14364.50	12064.50
	K18D	9.0	14373.50	12073.50

**SES AMERICOM's teleport facilities are located at:**

- Brewster, Washington
- Grand Junction, Colorado
- South Mountain, California
- Sunset Beach, Hawaii
- Vernon Valley, New Jersey
- Woodbine, Maryland

For further information on the SES Americom satellite fleet, please visit: [www.ses-americom.com/americom/siteSections/satellitesAndTeleports/satelliteFleet/index.php](http://www.ses-americom.com/americom/siteSections/satellitesAndTeleports/satelliteFleet/index.php).

## IT'S TRUE! SIZE DOES MATTER

*BTV In Asia*

by Michael Fleck, *Global Visions*

I recently heard from the communications manager of a large, US-based, multinational firm that, by the end of this year, the company's Asian-based employees would out number their US-based employees. He added by the year 2009, employee numbers in Asia would be greater than the combined employee numbers for the rest of the world. This is not an isolated case. The reason for such is because corporations, across the board, do all they can to move as quickly as possible into the Asian market. And for good reason, as more than 50 percent of the world's population resides in Asian regions. Look at the unique map of the earth for an illustration of population distribution.

The manner in which companies communicate with their employees reveals an imbalance between those situated in the 'West' (i.e., the U.S. and Western Europe) and those in the remainder of the world. Published statistics to verify this comment are difficult to locate. However, the Global Vision experience across the Asia-Pacific region determines such to be true. The U.S. and Western Europe employees receive the majority of company attention in a disproportionate amount, given actual employee numbers and work location. This communication issue is an unsustainable situation. But why does this problem exist in the first place?

In the past, large companies had, more or less, good rationales for ignoring Asian employees. Some of these reasons were canvassed in my article published in the March 2007 issue of Satmagazine, starting on Page 23. (Editors note: You can easily download this issue of Satmagazine in ".pdf" format by heading over to [www.satmagazine.com/past.shtml](http://www.satmagazine.com/past.shtml) and click on the cover image.)

The excuses revealed in that article can be summed up as...

- Asia is too difficult

- Asian people are too different
- Asia is too expensive
- Asia is just too hard

With the launch of PanAmSat 2 (PAS-2, now known as IS-2 at 169 degrees East) in September 1994, the major problem of connectivity from the US to Asia was overcome. The areas of coverage included the Pacific Rim, China and North Asia, Australia and New Zealand. The map on page 24 reveals the PAS-2's C-band coverage.

# FEATURES

(Continued From Page 23)

The first corporation to take advantage of this opportunity was Texas Instruments. They installed permanent TVRO installations



Texas Instruments Seoul Korea office

in 15 locations in the western Pacific Rim, including Singapore, Malaysia and China.

The groundbreaking installation of a true business television (BTV) network in the Asia Pacific region had to overcome pretty significant hurdles. Fortunately, one hurdle not present

at that time was landlord reluctance at the installation of large antennas on their buildings. In the early '90's, commercial use of satellite technology still retained a 'sexy' image. Antenna placement could occur anywhere possible. For example, there was an antenna placement 30 feet up a radio mast on the top of an 80 story building in Seoul to ensure heli-pad clearance.

A recent 'antenna climate' change finds landlords reticent to allow any satellite antennas on their buildings, let alone a large 3.8-meter antennas used for direct U.S. communication connections. Smaller, remote site antennas were now required if Asian employees were to have access to identical communication and training resources as their Western colleagues.

The main problem in reducing receive antenna size is the huge land mass known as Asia. The Asia Pacific region (including India) is more than three times the size of the entire United States, including Alaska and Hawaii. Asia is nearly eight times the size of Western Europe. That's a lot of land to cover with one satellite feed, especially if you want to use relatively small receive antennas.

To overcome this problem, Global Vision integrated four key components as a single package of services:

- New, high power, Asia region satellite
- Well designed uplink platform with both occasional use and conditional access
- Flexible interconnect linking corporate information centers in the U.S. to the hub in Asia
- Fully managed, professional installation and network management across the region

## Satellite

AsiaSat 4 is an ideal satellite for corporate connections in Asia. Launched in April 2003, this satellite is the most modern of the AsiaSat fleet. AsiaSat 4 covers the entire region. Plus, look angles are fairly high. This makes line of sight issues less of a problem.

## Platform

The major difference between Global Vision's Asia service and other, readily available AsiaSat solutions is our partner in Hong Kong. Speedcast has a number of platforms around the region

servicing broadcasters, ISP's and governments. Our fully saturated AsiaSat 4 transponders mean that the entire region can be serviced with a single acquisition of a 1.8-meter receive antenna.

## US Connection

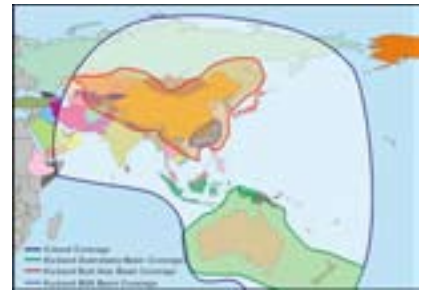
With the vast majority of BTV users based in the US, services into Asia had to have easily accessible,

reliable and low cost connectivity with the origination site and our Asian hub. This was the missing link--until Genesis Networks proposed a unique solution. Their answer enabled Global Vision customers to connect from any of almost 100 worldwide POP's directly to our hub in Hong Kong—all simultaneously. This reduced the complexity and costs of transmission paths as multiple switches and interconnections were eliminated.

The Genesis Networks platform is a next-generation, IP-based fiber and satellite video network possessing cutting edge switching and compression technologies. Genesis Networks provides broadcasters, cable networks, production companies and corporations with extremely high quality, customizable global video transmission services that are reliable, flexible and affordable. Network Installation and Management

The final problem was how to ensure signals were arriving on the desktops in Asia. The key equals locally based engineers working to ISO 9001 certified procedures, with all countries controlled from a central point. This delivers a 'network' rather than a number of individual installations. Add ongoing help desk and maintenance and you obtain the same level of service demanded by employees in North America and Europe.

BTV networks are valuable communication tools for companies spanning large geographic areas. The Asia Pacific region is not only a large landmass, but also home to increasing numbers of employees within multinational corporations. The challenge has been how to keep them informed and trained. Now the necessary tools are available to accomplish parity of communication. ■



AsiaSat 4 footprint. Global Vision uses the C band beam for delivery into 1.8 meter antennas across the region



Michael Fleck is managing Director of Global Vision Networks, the Asia Pacific region's leading provider of services to the corporate world. Based in Sydney with representative offices in Hong Kong, Singapore, Chennai (India) and soon in Beijing, Global Vision offers complete turnkey solutions for everything from downlinks into hotels to disaster recovery capability across the region.

Global Vision Networks is ISO 9001 certified, a big plus for maintaining quality in the design and management of permanent and occasional solutions for the enterprise market in 17 countries of the AP region. Since 1992 the company has assisted multinational corporations with a range of solutions including location television production, fixed and SNG uplink, temporary and permanent downlinks and an extensive network of satellite equipped five star hotels for special events.



# CALENDAR OF EVENTS

Date	Event	Location	Contact	Web Address
September 3-6	World Satellite Business Week	Paris, France	Linda Zaiche Tel: +33-149-237517 zaiche@euroconsult-ec.com	<a href="http://www.satellite-business.com">http://www.satellite-business.com</a>
September 6-11	IBC 2007	RAI, Amsterdam, THE NETHERLANDS	Tel +44-20-7611 7500 show@ibc.org.uk	<a href="http://www.ibc.org/">http://www.ibc.org/</a>
September 18-20	APSCC 2007	Bangkok, THAILAND	+82 2 508 4883/5	<a href="http://www.apsc.or.kr">http://www.apsc.or.kr</a>
September 24-27	The 9th Annual Global Industry VSAT 2007 Conference	The Waldorf Hilton Hotel, London, England	Tel: + 44-1727-832288 richard@comsys.co.uk	<a href="http://www.comsys.co.uk">http://www.comsys.co.uk</a>
October 1-4	NAB Satellite Uplink Operators Training Seminar	National Association of Broadcasters, Washington, DC	NAB Satellite Uplink Operators Training Seminar Tel: (202) 429-5346 ccolerid@nab.org	<a href="http://www.nab.org/AM/Template.cfm?Section=Satellite_Uplink_Operators_Training_Seminar">http://www.nab.org/AM/Template.cfm?Section=Satellite_Uplink_Operators_Training_Seminar</a>
October 4-6	Sat Expo	Vicenza, Italy	+39 0444 543133	<a href="http://www.satexpo.it/en">http://www.satexpo.it/en</a>
October 9-11	Strategic Space and Defense 2007	Omaha, Nebraska	Tel: +1-800-691-4000 or +1-719-576-8000	<a href="http://www.stratspace.org/">http://www.stratspace.org/</a>
October 9	ISCe Satellite Investment Symposium (ISIS) NYC '07	The Princeton Club, New York, NY	David Bross Tel: +1.301.916.2236 dbross@hfusa.com	
October 10-11	SATCON: The Satellite and Content Delivery Conference & Expo	Jacob K. Javits Convention Center, New York, NY, USA	203-371-6322 info@jevents.com	
October 29-31	MILCOM 2007: "Interoperability: Policy to Performance"	Orlando FL	AFCEA Exhibits Department c/o Spargo & Associates, Inc. 703-631-6200 / 800-564-4220 milcom@jspargo.com	
October 30 - November 02	CASBAA Convention 2007 "It's all about Content"	HONG KONG	Kevin Jennings Tel : +852 2854 9916 kevin@casbaa.com	
October 30-31	Broadcast India 2007 Symposium	Y.B. Chavan Centre, Mumbai, INDIA	Kavita Meer Tel: 91 22 2215 1396/2215 2721 saicomtradefairs@vsnl.com	<a href="http://www.broadcastindiashow.com">http://www.broadcastindiashow.com</a>
November 11-16	EuCAP 2007 - The Second European Conference on Antennas and Propagation	Edinburgh, UNITED KINGDOM	Emily Woodman Tel: +44 (0)1438 765648 eucap@ietevents.org	<a href="http://www.eucap2007.org">http://www.eucap2007.org</a>
Nov. 13 - 15, 2007	DoD Commercial Satellite Users Workshop	Renaissance Hotel, Washington, D.C.	David Bross Tel: +1.301.916.2236 dbross@hfusa.com	<a href="http://www.sia.org">http://www.sia.org</a>
Nov. 28-29	Aerospace & Defense Finance Conference	New York, NY, USA	Lydia Janow Tel.: 800-240-7645 212-904-3225 janow@aviationweek.com	<a href="http://www.aviationweek.com/conferences/">http://www.aviationweek.com/conferences/</a>
November 30, 2007	ISCe India SatCom Forum @ INFOCOM	HITEX Convention Center, Hyderabad, India	David Bross Tel: +1.301.916.2236 dbross@hfusa.com	<a href="http://www.isce-india.com">http://www.isce-india.com</a>
Dec. 03-06	ITU Telecom Europe	Sofia, BULGARIA	Fernando Lagrana	<a href="http://www.itu.int/EUROPE2007/">http://www.itu.int/EUROPE2007/</a>

# RECENT NEWS

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## BACK OF THE BOOK

by Hartley Lesser

There is so much more to *Satnews* than what you read between the covers of *SatMagazine*. Our daily and weekly news is designed to give you a quick read of the important news stories for our industry, from new projects and events to business activities ranging from financial information to new products brought to the light of day.

Our news stories for the last two weeks are available at our website... access [http://www.satnews.com/recent\\_stories.shtml](http://www.satnews.com/recent_stories.shtml) or, if you are elsewhere on the SatNews website, simply selected the menu item **RECENT STORIES** and, well, there you are!

Some of the most interesting stories we've presented over the last four weeks include the following items... if you would like to read the entire story, you can click on the URL at the bottom of the story and then inwardly digest...

## CORPORATE ACTIVITIES

### *Contract Mod For ATK Is Shuttle Diplomacy*

The delivery of reusable solid rocket motors for the space shuttle will continue, thanks to a new NASA contract awarded to ATK Launch Systems. This \$681 million contract reforms and extends the current contract to align production to new launch schedule requirements through September 30th, 2010. Deliveries will now be consistent with the planned retirement of the space shuttle in September of 2010. The contract was originally awarded to ATK Launch Systems in October of 1998.

[http://www.satnews.com/cgi-bin/display\\_story.cgi?number=492602364](http://www.satnews.com/cgi-bin/display_story.cgi?number=492602364)

### *Down Under Defense Forces Join In With Boeing's WGS System*

Joint Project 2008—sounds intriguing, and it certainly is... for this is a new acquisition plan by the Australian government that will find the "down under" military joining with the U.S. military's new satellite system. For their share of the Wideband Global SATCOM (WGS) system, the Australian cabinet has earmarked \$2 billion.

[http://www.satnews.com/cgi-bin/display\\_story.cgi?number=968537183](http://www.satnews.com/cgi-bin/display_story.cgi?number=968537183)

### *Your Satellite Road Service, In Space, from DARPA and NRL*

The key technologies and work on reducing the technological risk to allow autonomous spacecraft rendezvous and docking to become a reliable reality are being worked on currently by the Naval Research Laboratory's Naval Center for Space Technology (NRL) and the Defense Advanced Research Projects Agency (DARPA). As a matter of fact, the NRL achieved a key milestone toward this development of autonomous servicing of unaided spacecraft. The development, testing and ground demo of guidance and control algorithms allowed a robotic servicing vehicle to rendezvous and dock with customer satellites NOT pre-designed for docking, all autonomously.

[http://www.satnews.com/cgi-bin/display\\_story.cgi?number=445354028](http://www.satnews.com/cgi-bin/display_story.cgi?number=445354028)

## *Peacekeeper Repurposement Leads To E'Prime Time*

When you discuss launch with E'Prime Aerospace, the discussion will turn to their "cold launch" and "canister" technologies. Light to medium lift single core vehicles will launch from a launch tube that propels the rocket approximately 200 feet into the air before the first stage is ignited. This method, according to the company, increases the payload capacity by about 10 percent. It also prevents costly refurbishment to the launch facility itself.

[http://www.satnews.com/cgi-bin/display\\_story.cgi?number=935797360](http://www.satnews.com/cgi-bin/display_story.cgi?number=935797360)

## *A Block Off The Other Blocks Passes Tests*

Testing... testing... electrical power system, attitude determination and control system, telemetry, tracking and command and navigation payload... wow, they're all working as they should and have been integrated properly into the satellite. That's the word from the **Global Positioning Wing** who has successfully passed the Initial Integrated System Test on the first GPS Block IIF satellite at the **Boeing Spacecraft Development Center** in El Segundo, California.

[http://www.satnews.com/cgi-bin/display\\_story.cgi?number=1589186766](http://www.satnews.com/cgi-bin/display_story.cgi?number=1589186766)

## *Globalstar Has The 2ndGen SatGoodies Pieced Together*

A launch agreement has been signed between **Globalstar, Inc.** [NASDAQ: GSAT] and European launch services company, **Arianespace**. The event both will work on is for the launch of Globalstar's secondgen Low Earth orbit (LEO) satellite constella-

## RECENT NEWS

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tion. Globalstar now will have the ability to conduct back-to-back launch campaigns and start launching their new satellites as early as the summer of 2009.

[http://www.satnews.com/cgi-bin/display\\_story.cgi?number=564915090](http://www.satnews.com/cgi-bin/display_story.cgi?number=564915090)

## *iDirect Getting Truly Direct In Dubai, UAE*

A new Middle East/Africa HQ has been opened by iDirect, Inc. (iDirect), a company of Vision Technologies Systems, Inc. (VT Systems) in Dubai, United Arab Emirates (UAE). This new office is located in Dubai's Silicon Oasis Technology Park, and what a structure this is...the company's newly appointed Regional Vice President for Middle East/Africa, Rash Jhanjee, will head up the new operation.

[http://www.satnews.com/cgi-bin/display\\_story.cgi?number=634665976](http://www.satnews.com/cgi-bin/display_story.cgi?number=634665976)

## *The FAA's Golden GPS Ring Captured by ITT Corporation*

The initial **Federal Aviation Administration (FAA)** \$207 million, three-year contract for the development and deployment of the **Automatic Dependent Surveillance-Broadcast (ADS-B)** system has been awarded to **ITT Corporation**. This program is tasked with improving the safety and efficiency of the growing demands

# RECENT NEWS

(Continued From Page 27)

of air transportation. ITT is going to be responsible for the overall system integration and engineering. There are also options for system operation and maintenance after deployment through September of 2025. If all of the options are exercised, the contract value could be \$1.86 billion.

[http://www.satnews.com/cgi-bin/display\\_story.cgi?number=1459336575](http://www.satnews.com/cgi-bin/display_story.cgi?number=1459336575)

## EXECUTIVE TRANSITIONS

The current chairman of The Allstate Corporation, Mr. *Edward M. Libby*, has just been elected to the **Boeing** board of directors. This is effective immediately. Mr. Libby served as CEO of Allstate from January 1999 to December 2006, President from January 1995 to May of 2005, and COO from August 1994 to January 1999.

There's a new Director of Enterprise Sourcing for Boeing India. Daniel Gillian has been named to the position as Boeing strengthens their enterprise presence in India. He'll play a central role in establishing strategic business relationships within Indian industry and will help to develop the company's network of Indian partners. Daniel has held several positions during his seven-year career with Boeing.

Newly appointed to the position of Corporate Secretary at **C-COM Satellite Systems Inc.** (TSXV: CMI) is *Shane McLean*. Shane is a corporate lawyer with the Ottawa law firm of LaBarge Weinstein. He has worked with C-COM as legal counsel for the last 5 years.

**DIRECTV** has agreed to a new three-year contract to continue the work of *Chase Carey*, the president and CEO. The new employment agreement is in effect immediately and will run through December 31<sup>st</sup>, 2010. He joined DIRECTV in December of 2003. *Rupert Murdoch*, CEO and chairman of News Corp., stated, "I've had the pleasure of working with chase for almost 20 years and admire and respect him, both as a business leader and personally."

*Chris Stocking* has been appointed as the new president for the United Kingdom for **Genesis Networks**. He is going to be responsible for expanding the company's business opportunities through the U.K and Europe.

The Hartinger Medal is presented annually to the person selected by NDIA Rocky Mountain Chapter members to the individual who has made a significant contribution to the military space mission of the United States. From the Los Angeles Air Force Base, Lt. Gen. Michael Hemel, Space and Missile Systems Center commander, was the recipient this year at the National Defense Industrial Association Rocky Mountain Chapter Ball in Colorado Springs, Colorado. Under General Hamel's leadership, SMC recently had its 51st successful space launch in a row.

A new Managing Director is heading up the operations at SES SIRIUS as he has just been named to this critical position. He

is the former Vice President of Sales for the company and his name is Hakan Sjödin. He'll start in his new position on September 10th, just in time, too, as the planned launch of the company's latest investment, the Sirius 4 satellite, is just a couple of months away.

## NEW PRODUCTS

### *Blue Sky Offers Asset Tracking Acumen*

A unique combination of Iridium Satellite and GSM/GPRS connectivity are features within the latest addition to Blue Sky Network's asset and fleet tracking product line. The new offering is their D3000 transceiver. Not only is there the cost-efficiency of dual connectivity, but also there are new security features, global remote asset tracking and two-way text messaging.

[http://www.satnews.com/cgi-bin/display\\_story.cgi?number=92575341](http://www.satnews.com/cgi-bin/display_story.cgi?number=92575341)

### *Garmin Says Do Not Go Blindly Into That Dark, Dark Night... Or Bright, Bright Day, For That Matter*

Knowing where to go, or having assistance in doing so, avoids numerous cuts and bruises and otherwise dented vehicles while scrambling for a map in the glove compartment, or pulling the map from your face with your car window open while driving... fortunately, there is the new **Garmin** nüvi 700 series satellite navigation system just released. The user interface is intuitive and offers an easy navigation experience. Plus, the unit also offers traffic warnings to advise you of congestion awaiting you as well as safety camera alerts for mobile and fixed cameras.

[http://www.satnews.com/cgi-bin/display\\_story.cgi?number=1835512355](http://www.satnews.com/cgi-bin/display_story.cgi?number=1835512355)

### *A Million Dollars For Your Thoughts*

One million dollars! Not chump change, that's for certain. That amount is the total prize money being awarded during the upcoming 2007 Space Elevator Games in Salt Lake City, Utah from October 19th through the 21st. NASA is funding the awards, all in the name of cutting-edge technology development. The space elevator, first proposed in the 1960s and then enhanced by Dr. Bradley Edwards of Los Alamos National Laboratory in New Mexico, is a system for Earth-to-space transportation. A stationary cable moves in unison with Earth. One end of the cable is anchored to the planet's surface. The other end is in space and electric vehicles carrying cargo and passengers then travels up and down the cable.

[http://www.satnews.com/cgi-bin/display\\_story.cgi?number=1975085791](http://www.satnews.com/cgi-bin/display_story.cgi?number=1975085791)

### *ENGs and EBs Have A Friend At ND SatCom*

When involved in ENG and EB, requires effective satellite communications technology as well as a solution that's cost-effective as well as user-friendly. Such may well be the case for ND SatCom, an SES ASTRA company, as the firm has introduced a new IPTV contribution solution. ND SatCom's solution for IPTV applications enables live video contribution and video streaming based on MPEG-4/H.264.

[http://www.satnews.com/cgi-bin/display\\_story.cgi?number=1986726025](http://www.satnews.com/cgi-bin/display_story.cgi?number=1986726025)

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### IN CLOSING...

We hope this issue of SatMagazine has informed you, satisfied a curiosity, given you food for thought, or otherwise tickled your fancy.

Let's take a peek at the October issue of SatMagazine. The publication will be crammed with impact-centered content. Here's a wee sample...

You certainly should be aware of the controversy surrounding the allocation for IMT services in the C band... read the important Point Of View article "Addressing The Current Threat To C-band Satellite Services" by Matthew Botwin.

We then get into one way to broaden your perspective of broadband... how about "Think Aviation" by author, David Gross, the Chief Analyst at Freesky Research LLC.

Jörg Schmidt is the owner and co-founder of the DEV Systemtechnik GmbH & Co. KG and he has written a feature entitled "On The Lightwave", informative reading concerning optical transmission systems.

One of the most fascinating articles I've read in a while can assist everyone who is involved in launch and satellite events 'cause the feature deals with a process for halting launches and satellite on-orbit failures... look for "Failure Is Not An Option" in the October issue, authored by Len Losik, President of Failure Analysis and creator of Telemetry Prognostics technology.

Chris Wallace returns with a look at how Satcomm Solutions Save Lives; Michael Fleck addresses BTV in Asia; and Dilene Cruickshank discusses Satellite Control. There are a couple of strong "mebbe" articles that could come to pass. However, until such are firmed up, I would prefer not to reveal all right now.

Our formidable Marketing Intelligence columnists David Hartsorn and Martin Gerald return and I'll have a great interview lined up and a new Satellite Focus feature.

I might add now would be an awesome time if you have ever had any interest in writing for SatMagazine or MilsatMagazine to contact me. I am seeking new authors to supplement the terrific writing of our columnists and am open to article suggestions for our magazines. No time like the present to present yourself as someone who has information to offer our satellite communications industry. I would be delighted to forward to interested parties our editorial calendar for the remainder of this year and for 2008.

I hope everyone has a successful September and... well, we'll see you in October with our SatMagazine and both a .pdf and PRINT-ED version of MilsatMagazine!

Hartley Lesser  
[hartley@satnews.com](mailto:hartley@satnews.com)



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