









NOTE FROM THE EDITOR

New Markets are Emerging All Over



Following our very successful issue on New Satellite Applications last month, which generated a lot of response from our readers, we now present an issue on "Emerging Markets." This issue features a deeper look at one of the technologies highlighted last month--HDTV. Dan Frever writes about the diffusion

of HDTV in North America and our EMEA editor Chris Forrester looks into the prospects of HDTV in Europe, which is launching their first HD channel on New Year's day, 2004.

We also have comprehensive insights on various markets such as Africa, China, the Middle East in our cover story written by Howard Greenfield as well as a very positive look into the Latin American market (a market some are too quick to write off) by the Global VSAT Forum. As usual, industry veteran Bruce Elbert gives us his insights on the impact of global trends on emerging markets, which gives us the big picture. And for a specific case study we have an experience in introducing DBS in a developing country written by Thomas van der Heyden.

Although we can't possible cover every emerging market in one issue, one thing that is very apparent is that there are many energing markets--and the signs are very good that the industry is slowly but steadily recovering.

It should be a very good 2004.

Vingil Lahadon

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SATMAGAZINE.COM

Published monthly by Satnews Publishers 800 Siesta Way, Sonoma, CA 95476 USA Phone (707) 939-9306 Fax (707) 939-9235 E-mail: design@satnews.com Website: www.satmagazine.com

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Satnews Publishers is the leading provider of information on the worldwide satellite industry. Fore more information, go to www.satnews.com.

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CALENDAR OF EVENTS

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JANUARY 2004

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FEBRUARY 2004

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Mark Your Calendar for ISCe 2004:

June 1-4, Long Beach, CA, USA (Note new dates) ISCe is the premier annual conference and expo highlighting dualuse satellite-based services, applications and innovative technologies for the commercial, civil and military sectors. Key program highlights for ISCe 2004 include: Satellite Users Forum, Defense and Security Forum, Global Navigation Forum, Satellite Communications Forum, Satellite Entertainment/DBS Forum, U.S.-Asia Satellite Business Roundtable, GPS educational seminars and the Space Career Program. For more information, please visit www.isce.com or contact Gina Lerma of Hannover Fairs USA, Inc. at (310) 410-9191 or glerma@hfusa.com.

FEATURED EVENT



ISCe 2004: Strong Signals on the Horizon

Long Beach, California June 1-4, 2004

Now going on its third year, ISCe 2004 in Long Beach ,California is a must-attend event that features leading industry executives and decision makers in a three-day conference and expo from June 1-4, 2004. Organized by Hannover Fairs, USA, one of the leading event organizers in the world, ISCe has carved a niche as the premier annual conference and expo highlighting dual-use satellite-based services, applications and innovative technologies for the commercial, civil and military sectors.

ISCe addresses the challenges for the satellite industry and presents the opportunities that are on the horizon. The key business sectors, which ISCe will focus on includes: Broadband; broadcasting/DBS; communications; homeland and national security; global navagation satellite systems, among others.

"ISCe 2004 will highlight satellitebased services, applications and technologies for the commercial, civil and military sectors, as well as key topics including defense and security, communications, navigation and broadcasting/DBS," said Art Paredes, vice president and general manager of West Coast operations for Hannover Fairs USA. "Attendees will be able to network and meet with satellite providers, users and potential customers from the commercial and military markets under one roof."



"One of the new sessions at ISCe 2004 that will receive a lot of attention from those in the industry will be our Galileo presentation, which will bring participants up to speed on the most recent project developments and outline business opportunities for non-European Union companies," added Paredes. "This session will give our attendees an excellent insight into the various business opportunities that Galileo will offer and how to go about pursuing them."

Some of the conference topics include:

--Galileo Opportunities for U.S. Providers

--Future Concepts of MILSATCOM

--Broadband for Enterprise Solutions: Two-Way Broadband

--VSAT Networks for the SOHO, SME's and others!

--Use of Commercial Satellites for the Government and Military

--Satellite Services for the Retail, Transportation and Energy Sectors

--Satellite Entertainment / DBS

--Global Navigation Satellite Systems

--Enabling Technologies for Port Security, Law Enforcement and Disaster Relief

FEATURED EVENT

ISCe is targetting a very broad base of attendees from providers of satellite services to end-users. Only on its second try, the 2003 event attracted 1,047 registered participants from 28 countries and 51 exhibitors—a significant number considering the recent downturn in in the satellite industry.

"While the 40% increase in registered participants from the inaugural ISCe in 2002 is important, the most encouraging attendee numbers from our 2003 surveys is that 86% of them stated that the conference program and content was superb," said Joachim Schafer, president of Hannover Fairs USA. "This figure will give us great wordof-mouth exposure, which combined with our conventional marketing campaigns and value-added initiatives, should continue the growth trend of high-caliber attendance at ISCe 2004."

Indeed ISCe is more than just a conference and expo—it presents various opportunities for networking and business development such as:

--Special "Galileo Opportunities for U.S. Providers" program

--Pre-conference training seminars and workshops

--One-on-one interviews with industry leaders

--Matchmaking program

-- ISCe 2004 Awards Dinner

--U.S.-Asia Business Roundtable

One of the unique features of ISCe is it's Matchmaking program. For a token fee, organizers will arrange on-site meetings between potential business partners at the show. Previous participants who availed of this program gained access to key contacts that generated new business after the show.

June 1-4, 2004 • Long Beach, California "Strong Signals on the Horizon"

ISCe 2004

Mark Your Calendar!

Join the global satellite community at ISCe 2004, the premier U.S. West Coast annual conference and expo for the commercial, government and military sectors!

Conference & Expo

ISCe 2004 Highlights:

- · Dynamic three-day conference program:
 - Satellite Users Forum
 - Satellite Communications Forum
 - Global Satellite Navigation Forum
 - Defense and Security Forum
 - Satellite Entertainment/DBS Forum
- GPS Training Seminars
- Special "Galileo Opportunities for U.S. Providers" presentation
- · One-on-One Interviews with industry leaders
- U.S. Asia Satellite Business Roundtable
- Matchmaking Program
- ISCe 2004 Awards Dinner
- Exhibition Center with product demonstrations
- · Satellite Career Day

For complete program details, registration, exhibit sales and sponsorship opportunities, please visit www.isce.com or call +1 (310) 410-9191



FEATURED EVENT

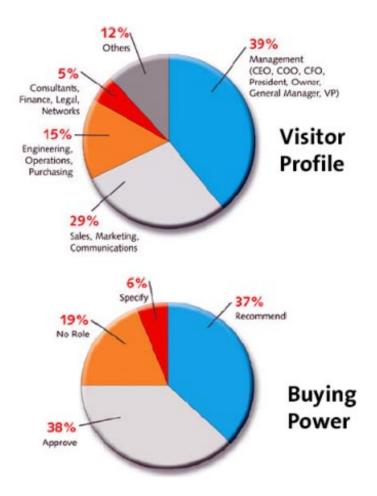
"The key differentiator between ISCe and other industry shows is its location and the extremely highquality of speakers. California is home to three NASA facilities, several of the world's largest satellite manufacturers and launch providers, a variety of U.S. military installations, Silicon Valley and Hollywood, and is the gateway to the Asia-Pacific Rim," added Schafer. "ISCe is the only permanent West Coast satellite communications event where exhibitors can have access to such a unique variety of industry executives and end-users."

Truly an industry show, the sponsors and supporting organizations of ISCe consist of the leading organizations in the business including: Satellite Industry Association, Asia - Pacific Satellite Communications Council, The Boeing Company, California Space Authority, Global VSAT Forum, European Satellite Operators Association, Lockheed Martin Commercial Space Systems, Stellar Solutions, SES Americom, Mobile Satellite Users Association, World Teleport Association and the Society of Satellite Professionals International.

For more information, visit www.isce.com or contact Gina Lerma of Hannover Fairs USA, Inc. at (310) 410-9191 or glerma@hfusa.com.

Mark your calendars now and see you in June in Long Beach, California.

ISCe 2003 Demographics



REGISTRATION

To register or to get more information, visit www.isce.com or contact Gina Lerma of Hannover Fairs USA, Inc. at (310) 410-9191 or glerma@hfusa.com.

INDUSTRY NEWS

Two Way from Satmode is Now Possible

SES Astra is running test signals for its low-cost two-way Ku-Ka Satmode service. Project manager Christophe Duplay says the working LNB prototypes (from Belgium's Newtec) are performing well. Satmode is pushing for an early conclusion to its upcoming Critical Design Review with widespread field-trials scheduled for February 2004 to "torture the system" for complications. Massmarket production is expected a year from now.

Satmode is ESA-sponsored technology calling for a two-way

LNB and supporting modem designed to cost less than US\$50 when factory integrated, and not much more when produced in a stand-alone modem. "We are very comfortable with the \$50 price target, and are now looking at halving that figure," said Duplay. He added that an external modem version might well cost \$75-100. "We are also now looking at Spain and Germany as test-regions, and we are evaluating the possibility of an all-Ku version for the UK market," says Duplay. He is pragmatic enough to realise that it may not be commercial

broadcasters who make the first move for Satmode but public broadcasters. The appeal is Satmode's ability to work regionally or in quite tightly-addressable zones, in England (say) but not Scotland, or Munich but not Berlin. This could be attractive to advertising-led channels which might need variations in an ad-sales message. But it could also prove useful to public sat-casters needing to focus on a specific region or city.

The service, as tested in Luxembourg, is impressive. Users have a simple set of options

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INDUSTRY NEWS

allowing them to use the colourcoded buttons on a remote control, with broadcasters given the option to configure the list as a menu for friends ("buddy list") and family. But in essence the 4 options are: Red:Write; Green:Read; Yellow: Exit; Blue: Standby.

There is already an option for messages to be sent onward to cellular phones, for example. However, Duplay recognised that there's still work to be done: "The major challenge is legacy boxes, and not necessarily just persuading an operator to add Satmode. One [pay-TV] platform currently has about 12 different version boxes in the market, not all of which are [successfully] running existing interactive services." He added that Satmode will probably find its way initially into high-end boxes. He also said there could be interest from outside Europe, where large pan-regional broadcasters could with Satmode available - for the first time promote and expect impulse responses from widely dispersed audiences. Duplay explained that Satmode's ease of use and low cost could prove highly attractive to countries like India, or regions like the Middle East, as well as to developed countries.

Satmode isn't designed just with email and simple messaging in mind. "We could easily extend it to include sending a family picture stored in the PVR. But this could soak up bandwidth, so becomes not a technical question but an economic question. It is down to compression and available bandwidth," said Duplay. "We have a working system. Now it's the deployment."



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December 2003

EXECUTIVE MOVES

Wildblue Appoints New President and CEO

Wireless broadband company WildBlue Communications, Inc.,



Ken Carroll

appointed Ken Carroll to the position of President and Chief Operating Officer.

Carroll will be responsible for establishing

the company's operational and sales mstructures in preparation for WildBlue's service launch next year. The company has plans to deliver a two-way wireless broadband service via satellite, direct to homes and small offices throughout the contiguous United States, beginning in the second half of 2004.

Carroll has served as President and Chief Financial Officer of Liberty Satellite & Technology, Inc. (formerly known as TCI Satellite Entertainment, Inc.) since February 1995. He also served as Senior Vice President and Chief Financial Officer of PRIMESTAR, Inc. (now known as Phoenixstar, Inc.) since April 1998. From December 1994 to May 1997, Mr. Carroll served as Vice President of TCI K-1. Inc. and as Vice President of United Artists K-1 Investments, Inc. From April 1994 through January 1995, Mr. Carroll served as Vice President of **Business Operations and Chief** Financial Officer of Netlink USA, a subsidiary of TCI.

A graduate of Georgetown University, Mr. Carroll received a Masters in the Science of Accounting in 1978. He received a Bachelor of Arts in Economics and Environmental Science from the University of Virginia in 1977.

Xantic Appoints New CEO

Dutch service provider Xantic appointed Pieter Eelkman Rooda as its new CEO. He took over from Eric de Jong, who had been acting CEO.

Pieter Eelkman Rooda is 42 years old, married and has three children. He holds degrees in operations research and marketing. Having

worked in various capacities at Fokker Aircraft, Rooda joined the Dutch Broadcasting Company NOB in 1994. During his tenure as



CEO of various NOB companies, he primarily focused on (re)gaining profitability, restructuring and strategic repositioning. Over the past three years Rooda was responsible for all the Mergers & Acquisitions activities of NOB.

"It is a great challenge to head a company of Xantic's stature in such a dynamic market," said Pieter Eelkman Rooda. "As we embark on a strategy aimed at assuring Xantic's leading position in satcom, my expectations for the future are high," he added.

Andrew Corporation Appoints Joan M. Byrnes as Vice President and General **Manager--Satellite** Communications

Joan M. Byrnes has joined Andrew Corporation in the newly created role of Vice President and General Manager, Satellite Communications.



Joan M. Byrnes

In this position, she will be responsible for managing Andrew Corporation's global satellite communications lines of business. Byrnes was the former Chief Operating Officer at Loral Skynet, a division of Loral Space & Communications.

Prior to the acquisition of AT&T Skynet Satellite Services by Loral Space & Communications, Joan held a number of senior positions

Pieter Eelkman Rooda within AT&T, including leadership roles in strategic planning and business development, product management, business network sales, and network operations. Joan serves on the board of directors of the Society for Satellite Professionals International (SSPI). She is also on the advisory board for SATCON, a conference board focusing exclusively on applications of satellite technology for existing and emerging growth segments.

> Byrnes holds a BA degree in English from Montclair State University and an MBA from Rutgers University.

COVER STORY

Markets Emerging Around the World

By Howard Greenfield

"With all of the glitter of our new satellite technologies, The major success factors in emerging markets remain the nuts and bolts of execution, marketing, pricing, customer service and money collection."

-Jacob Arback Managing Director, Business Research International

Sometimes my week feels like I'm going in circles around the planet. But this week it was propelled by news from industry leaders in London, Dubai, China, and Africa. Determining the direction of global markets takes extensive research. But speaking with these experts provides insight on where to expect growth and where we may encounter barriers and opportunities.

Setting Out: Africa and Beyond

The issues that will be on everyone's mind when SatCom Africa 2004 convenes in Johannesburg next February, and SatCom Asia 2004 next March are the big industry developments and applications. However, in addition to the latest global government policies and new product projections will be the search for revenue trends.

Where are the next new businesses and what are the regions? We know business is growing. According to Frost & Sullivan, transponder capacity revenues in Europe, the Middle East, and Africa will grow from \$3.79 billion in 2002 to \$4.88 billion in 2009. But Satellite is one of the world's most dynamic industries, so growth curves and patterns can be elusive. For instance, according to information released in this month's ITU (International Telecommunication Union) Digital Access Index (Digital Access Index 2002), many African countries rank among those with the lowest access.

Africa's development for 820 million people is unique. Technology can leapfrog as it has with the telephone by early this year the mobile phone accounted for greater than 65% of total usage. The same principle applies to satellite service deployment whose reach and efficiency generally surpasses terrestrial capabilities. Yet Astra CEO Ferdinand Kayser sees that as an opportunity: "Africa is one of the strongest growing Internet and telecommunication markets in the world, despite many users experiencing difficulties in connecting or facing unreliable service and frustratingly slow transmission speeds. Satellite broadband offers a ubiquitous, state-of-the-art high-speed service, not least in those areas not served or underserved by terrestrial networks. We are convinced that IP Direct's customized and scalable two-way satellite services respond to a real market demand across Africa".

There are multiple views on the question of emerging markets. Many see Africa as an audience and market of the future—perhaps because it is believed that satellite can best serve dispersed, remote users with poor terrestrial connectivity. Some look to India, others even argue in favor of advanced applications and services across Europe and North America

The View from China

In making sense of this, and assessing large-scale growth potential, all is relative. This is pointed out by Patrick French, Senior Analyst, Europe and Northeast Asia, Northern Sky Research. Mr. French currently works out of Chongqing (previously AKA Chung King) and has some interesting views on China, Asia, and other global regions. "Typically when you look at satellite services you divide them into a few major market segments. The biggest among the various satellite services, is transmission of TV channels, which usually accounts for 60% to 80% of the service revenues across the Geos. Satellite is the best way to distribute video across geographic areas, and it will be into the future. While there's a lot of talk about other

COVER STORY

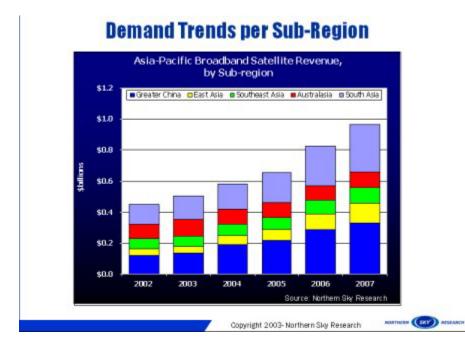
aspects, you do have to keep in perspective that this video market is the mainstay where everyone makes their money."

Mr. French points to India as an interesting example. "So, if you comment on particular country level markets, let's take India, with the lessening of the telecom services deregulation, for most operators it's an interesting market these days. It's seen significant growth in VSAT (corporate networks), as seen in recent Hughes and Gilat announcements. However, a caveat for India is that you have to have an Indian partner that owns the majority of the service and is based in India. I am a little concerned that quite often after the growth spurt that follows deregulation comes a downturn—not every player can maintain the growth."

Regarding China's market, French says the government reports 8-10% growth. Despite the any of the government's positioning of the data, it is doubtless a major developing area. Growth will continue and satellite will have a big role. "But China is not a common market" says French. "It is controlled, for better or worse, by the government—probably necessary for control and consolidation in a country so large. Growth is also hard to forecast, it depends on government rulings, but the potential for pay satellite is enormous. There are lots of little cable systems here and there, but it's normally a free service. If the government were to approve a pay TV system along the lines of what you see in Europe or US—though the exact model would certainly be different—I would not doubt that within in a short period of time you would have millions of subscribers. It's potentially a huge market that translates into needs for satellite capacity".

In Africa, the impact of such services as Internet is huge—so many parts of Africa have minimal terrestrial networks. But in many sub-Saharan African countries, the people need a lot more basic services than satellite TV for example. French goes on to say, "For instance, SES Astra is now working in a South African partnership on delivering 2-way broadband access. [see Astra CEO Ferdinand Kayser's remarks above - HG]. There is a real demand there, maybe there's 10-20% growth in the last year, but in reality if it means they're going from half a transponder to one transponders usage, that's not such big deal; it doesn't translate into lots of capacity or money." So, growth in terms of required transponder capacity depends on bandwidth demands. Again, growth statistics are relative.

As French puts it: "I will take 2 or 3 % growth in the video market any day, over 10 to 15% growth in most of the other markets for the simple reason smaller growth in the that segment translates into large



transponder capacity and revenues. Don't get me wrong, it's good to see growth in any segment; but whenever you see satellite operators touting growth in certain areas, it's important to take it in perspective of the market for overall satellite services".

The Gulf: Middle East, North Africa

Showtime digital satellite pay-TV network in the Gulf has grown steadily in the region since its first MPEG-2 broadcast in April 1996. They offer very sophisticated services including ordering

Data Source: Northern Sky Research, 2003 December 2003 movies by SMS from your mobile phone. They claim

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COVER STORY

it's the quickest, simplest way for subscribers to order and purchase movies and events broadcast on the network's Home CinemaTM. "For us, the territory is Middle East, North Africa (MENA)which really means services in 22 territories, individual countries, including Iran and Iraq—whom we see as opportunities for the future" remarks Showtime Gulf CEO, Peter Einstein. "Across this territory are around 400 million customers almost as big as the US. So it's a huge regional market. Having said that, there are also 22 difference currencies, GDP's and economic climates, and business-wise we must also discount this large market as they're all in different stages of 'emerging'".

Showtime is currently trading in four main areas: Saudi Arabia, UAE, Kuwait, and Egypt. Within the Gulf, these are the higher GDP areas (including Bahrain, Oman, and Khatar). "These have the highest per capita salaries of the entire middle east of 20-30K\$/year," says Einstein. "Looking to Syria, Lebanon, Jordan it drops to roughly \$3K-5K\$/yr. Then you have Egypt, which is massive, but less than \$3K/yr despite being a huge territory with a population around 68 million. So of this initial 400-million sized market, the initial phase for us is the 1.7 million 'A and B' income households of the Gulf. We offer 50 channels, as well as premium pay channels—Western programming with Arabic subtitles, at \$29-\$59/month.

Over the last seven years since their start in the region, they've added channels to add value. They claim around 250,000 subscribers, 20-25% of the top end market they are targeting. Their next phase is to increase that percentage and then move further in the other territories. But they will need alternative pricing options in these areas, supported by new enabling "box and card marriage" technology (smart card and decoder box).

"ArabSat is one provider in the region. However, we work exclusively at the moment with Egypt's NileSat, a dominant provider in the area running three Marconi satellites."

In terms of growing the business, Showtime's Senior VP of Finance, Andrew Young puts it "The Middle East teaches you to stay very focused on the key objectives of being in business - namely to drive the value of the business and return on shareholder investment. Always stay focused on the business model, and be



prepared to walk away from uneconomic deals and projects".

There seem to be minimal barriers from broadcast rules and regulations in the Middle East from Showtime's point of view. Says CEO Einstein: "So much of how we deploy content is based on sensibilities of the region. Of course, no gambling, no pornography. But our audience is 85% Arab Nationals, which is what we want to see. At first, in the early days, we thought some of the Western movie material might be offensive, interestingly, we mainly got angry calls from viewers about the censored version!"

In markets this broad, it's not easy to identify which new market beachheads to target. But it's clear the wide world of satellite services business is growing. Tracking that growth may prove to be a challenge worthy of a rocket scientist, but is full of opportunity. So, around the world we go. **SM**

© 2003 All Rights Reserved - Howard Greenfield Further Information contact: howard@goassociates.com

Howard Greenfield is a freelance writer who has held leadership roles in Fortune 1000 and some of Silicon Valley's top companies including Sun Microsystems, Informix Software, University of California, Apple Computer, Kraft and was VP, Product Marketing at Obvious Technology and Softface. He is principal of Go Associates, a leading consultancy that develops and implements high tech product marketing and business development strategies. Howard also currently serves on the board of BlueVoice, a non-profit marine life preservation organization.



FEATURES The Emerging Market for HDTV in North America

By Dan Freyer

Thirteen years ago, I wrote an L article about HDTV published in the leading satellite industry print journal. I interviewed Robert Hubbard, Vice President of Hubbard Broadcasting and son of the USSB pioneer and visionary, Stanley Hubbard. In 1990 he predicted that "With DBS every single person in the US that wants to receive HDTV will be able to do so via satellite if he or she purchases a set and a \$300-500 satellite receiver. On the other hand, if it's cable, terrestrial, or even VCR-introduced, that's not necessarily the case". Flashforward to 2003 - Echostar's new "entry-level" high-definition receiver/decoder hitting stores at \$399. Your future-vision was definitely high-resolution Mr. Hubbard.

DBS Dollars Up Front

With recent launch of Cablevisionowned Voom. America has its first high definition (HD)-centric DBS satellite service. Voom will beam 21 new and commercial-free HD channels including movies and sports across the US via its Rainbow-1 satellite. Voom says it will introduce MPEG4 video compression. While Voom's the only pure-HD DBS package, DIRECTV and Echostar have been beaming HD signals for some time. This past June, DIRECTV announced it would expand its existing HD programming pack including ESPN HD, Discovery HD November 2003



ABC's HDTV Control Room (photo: ABC Sports)

TheaterTM, HDNet and HDNet Movies for \$10.99 per month. In September, Echostar proclaimed it would add ESPN HD, Discovery HD Theater, HDNet and HDNet Movies at "the lowest prices in the industry": \$9.99 a month-- \$1 less than DIRECTV. Prior Dish fare: CBS-HD, HBO-HD, Showtime HD, and pay-per-view HD movies.

Broadcasters Buildout

The loss-leader, if not the revenue leader in HD has been over-the-air broadcasters and Networks. According the National Association of Broadcasters, broadcasters will be giving viewers nearly 2,500 hours of premium programming in HDTV format during the 2003-2004 television season. 1060 stations in 202 markets serving 99.347% of US TV households have installed HD- ready transitters. CBS, NBC, ABC and FOX are all running enhanceddef or HD feeds.

At ABC, according to Kenneth Michel, Vice President, Network Engineering, the network's 112 affiliates are in HD covering 85% of the country, and 140 stations are broadcasting over the air in digital format. ABC feeds HD satellite signals using C-band capacity on Telstar5. ABC delivers standard definition signals simultaneously with the HD material during Prime Time via conventional QPSK modulated signals in the same transponder using Tiernan gear. It also beams a traditional analog feed. Michel says ABC plans to migrate from analog to all digital in 2004.

CBS Vice President Brent Stranathan says of HD and SD:

"we'll run two side-by-side networks until they converge or we see the Standard Def network fall away".

Public broadcaster PBS has led the way in building HD and DTV transmitters and delivery systems. "We distribute seventeen SD signals and two HD nets, which rolled out in 1998" according to Jerry Butler, Sr., Director of Technical Distribution Operations for PBS. With its 180 downlinks and 350 TV stations, PBS is looking at the next generation distribution system and satellite will continue to be the backbone.

Catching up in Cable

Meanwhile, thanks to huge upgrades of cable plant capacity, consumer decoder and set availability, HD is rolling out in cable systems. According to the National Cable TV Association's recent survey, 78 of the top 100 DMAs were served by a cable operator offering HD programming. Comcast, the biggest cable MSO reports it is offering HDTV in markets serving 65% of its 21-million-customer base.

A growing number of cable nets are jumping into the HD game. With HD signals eating up to nine times the digital bandwidth of Standard Def (SD) digital signals, that's good news for satellite providers.

HBO become the first highdefinition pay channel in March 1999. HBO offers about 70 percent of its programming in true HDTV, and added Cinemax in HD in November. Says HBO's Robert Zitter, EV, Technical Operations and P & CTO: "Today we operate two Standard Def and two HD networks."

Showtime began SHOWTIME HD in 2002 and was the first pay HD network to provide Dolby Digital surround sound and HD video. SHOWTIME HD is currently available to more than 45 million homes via satellite on both DIRECTV and Dish Network and via cable, the company says. It plans to launch its second HDTV service this month. TheMovieChannel HD will transmit with 16:9 widescreen and 1080I resolution.

Discovery Networks, which has thirteen "standard definition linear channels" in the US, launched its first HD channel, DiscoveryHD Theatre, 16 months ago. In March, ESPN HD started as a 24hour high-definition service simulcasting ESPN in 720p format. With a new 120,000 square foot digital facility that houses seven HDTV control rooms and three high definition studios, ESPN has made a substantial investment. ESPN joined HDNet, Madison Square Garden Network, and Comcast Sports Net in the market producing live sports in HD. Collectively these sports channels are producing over 720 live events in HD.

StarzEncore announced plans to launch a new, Hi-Def premium movie channel and Hi-Def and Hi-Res versions of STARZ! To do so, it leased a new transponder on the Galaxy satellite at 127 degrees.

HDNet — the first HD-only network running 1080I format entertainment and sports services



ESPN's Digital Broadcasting Center (photo: ESPN)

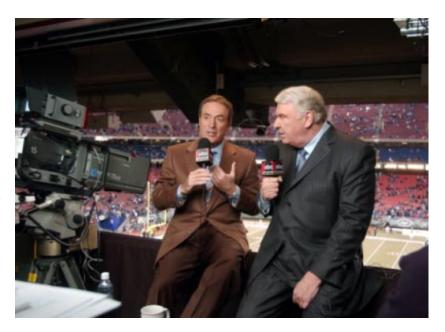
— also picked up a transponder on the same bird so it could add cable systems to its distribution, which previously was limited to DBS. More demand for satellite capacity can be expected: Bravo HD is slated to provide classic and current arts and entertainment fare in High-Def, and Pay-Per-View programmer, InDemand, announced its new HD channel, INHD, as we went to press.

Behind the Screens

At a recent satellite conference, key technology executives involved in HD shared their experiences. Chuck Pagano, SVP, Technology, Engineering & Operations, ESPN said his company chose this year to "get into the HD space in order to meet the needs and wants of our viewers and fans". "ESPN HD has required 120 live events so far to be produced for HD and uplinked in 720p" says Pagano.

How is ESPN handling live HD events? According to Pagano "We chose to originate HD backhauls via satellite for Major League Baseball and the NFL because fiber wasn't available". "We [also] used our HD feed to broadcast to the Master Control to hit the SD channel so we haven't raised our demand for satellite bandwidth". However, Pagano said he thinks demand for game highlights shot in HD will grow.

Of ESPN's live HD field production Pagano says "Right now we're taking baby steps. With one hundred and twenty events realtime it's been a little struggle to operate it because we're basically reinventing TV from an operational standpoint". "In March, some December 2003



Monday Night Football's Al Michaels and John Madden with HDTV camera in broadcast booth (photo: Ida Mae Astute/ABC Sports)

gear didn't work out of the box but it's getting better everyday."

Marcos Obadia, EVP & General Manager, Operations, Production & Engineering, Discovery Communications, Inc guessed that "With HD penetrated to DTH and cable now we're probably at around 1 million subs. Discovery HD Theatre includes 800 hours of original 1080i-format material" Discovery has unique experience in HD field production with Obadia's team pioneering some challenging efforts. One production, for instance, came from Antartica. Of that he said "HD from remote parts of the world has become sometimes a nightmare. Sometimes its multiple satellite hops, depending on where we come from". Like ESPN, Discovery is constructing an HD

playback and uplink facility of its own.

Of his experience setting up HD links for Monday Night Football ABC's Ken Michel said that "Logistics was a big headache for us. There isn't a level of expertise in uplink vendors in the equipment made for HD service. Not a lot of fiber networks are set up for HD equipment". "Uplink vendors traditionally don't have expertise in the equipment" he adds. "We've had issues like lip-synch timing, test time" and others.

But ABC's Michel admits that "operators have become more familiar with the technology even in recent weeks", and a number of leading service providers are gearing up to meet client needs.

Mary Frost, SVP Domestic Sales for GlobeCast says "our Los Angeles teleport and broadcast center will serve as our first HDTV broadcast gateway. In early 2004, we will offer uplink capabilities for HDTV from Los Angeles, as well as store and forward services. In Miami, we already offer HD-ready production studios in addition to network origination services".

Conclusion

From the looks of it HDTV is finally here and 2004 could be the year it takes off. It is going to have a very positive effect for satellite providers and operators, because Hi Def channels require a lot more bandwidth. Demand should finally reach a critical mass where set costs are falling and consumers have enough programming choices to make it worth their investment. That includes full prime time program schedules and HD coverage of major sports events. Satellite transport of HDTV signals is going to be critical for channel distribution and contribution.

Nevertheless, perhaps ESPN's Pagano sums it best when he says: "We're at the infantile stage today." **SM**



Dan Freyer is Director of Sales, Broadcast for GlobeCast, the leading provider of satellite transmission and production services, where he is responsible for cable program origination and distribution, and studio & postproduction service sales in the Americas. He can be reached at daniel.freyer@globecastna.com

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November 2003

European HDTV: Will it Fly?

By Chris Forrester

On January 1 a Belgian TV facilities company will start broadcasting the first of two HDTV channels it intends transmitting over greater Europe. It might seem bizarre to American or Japanese readers, already exposed to plenty of highdef content, that Europe is making such a fuss over this event. But the fact is that the two channels (one designed for home consumption, the other going into d-cinemas, pubs and sports bars) are Europe's first attempt to get HDTV services to fly. In late November at SES Astra's Luxembourg HQ I was able to look at Euro1080's test transmissions in HDTV (on Transponder 88, from 19.2 deg East) and displayed on a giant Plasma screen. It was an impressive demo. Astra's view is that they have 'first mover advantage' over Europe in High-Def, and that consumers will now look to them to build on that experience.

Up to now owning a large-screen Plasma was strictly the privilege of Premiership soccer players and senior TV executives! At £6,000 (US\$9000) and above that wasn't a surprise. But British electrical retailers are seeing some dramatic changes. Prices have tumbled recently and are now hovering around \$3250 and it seems that UK electrical retailers like Dixons, Comet and Powerhouse cannot get enough of them. Research outfit GfK's latest data, measuring Plasma sales in the UK retail chain, shows

that 44,700 were sold in the year to September 30, an increase over the previous 12 months of 440%. That's staggering. Matt Gibbs of GfK's UK team monitoring this sector says all the signs are that Plasma sets are this year's 'hot' high-ticket item for Christmas. Projecting forward, with similar sales performance, he suggests that 2004's sales could hit 250,000 units. GfK's figures do not include wholesale buys, for example,



from large volume orders for hotels or businesses. Just retail.

There's a similar sales explosion in LCD displays, that is those with a TV tuner fitted and designated for the lounge, not the computer room. They've sold 110,600 in the year to September 30. Up an impressive 410%, suggesting sales next year could hit 400,000 units. GfK say this sales explosion is not limited to just the UK, but is increasingly

found across Europe, although the UK is Europe's leading 'early adopter' in the flat-panel market. But think on this: by Christmas 2004 there could be around 1m UK homes with Plasma or LCD screens installed. Moreover, the EBU (see a report at www.ebu.ch/tech_texts/ tech_text_i35-2003.pdf) recognises that by 2005 there could be "substantial sales" of flat-screen displays across Europe.

European viewers wanting to tune into Euro1080's telecasts will need dishes that can see Astra at 19.2 deg East, plus - yet another - set-top box (first models will be available shortly from Taiwanese box-makers Zinwell and QNS, and Korea's Integra) with Pioneer, Panasonic, Smart, Humax and Technisat all promising to have boxes available soon after the New Year.

Belgium-based Euro1080's business model is straight-forward. CEO "The end is near for CRT displays"Gabriel Fehervari says HD set-top

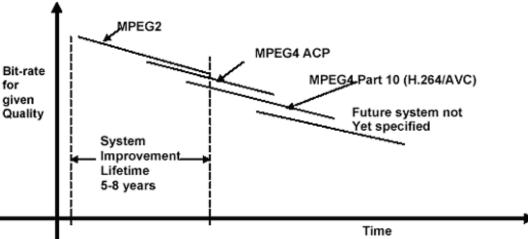
boxes will be priced at around EUR500-550, dependent on local taxes. An Irdeto smart card will be included in every box, valued at EUR100 which will be Euro1080's total fee for the service. While not quite saying there would be no further fee "in perpetuity" Fehervari says by 2006 there are good prospects for ad-revenues to start flowing to what will be a well-heeled Plasma-ready audience. The set-top boxes were all evidently highlyspecified and would be capable of automatically handling all the

'normal' digital and HD transmission standards, from standard definition, through 720 lines, in either interlaced or progressive formats, up to 1080 lines. Euro1080 will transmit in 1080i.

As readers know, North America is heavily committed to digital terrestrial HD. In the US (as at end-Oct) there were 1060 stations fully converted to HD (in fact simulcasting analogue and digital signals) and covering 99.35% of the market. In addition, 82.19% of the more than 106 million US TV households are in markets with five or more broadcasters airing DTV and 56.12% are in markets with eight or more broadcasters sending digital signals. 100% of US satellite viewers can watch a minimum of 8 HD channels, provided they have a suitable TV and set-top box. Indeed, Cablevision - a cable company has launched its own fully HDTV satellite services, called 'Voom' on Oct 15 with 39 HD-channels including 21 exclusive HD-channels in MPEG2 from its Rainbow Media subsidiary. It wants other cable head-ends to take its service, but is also looking to pick up 1.25m of its own subscribers by 2006. Next year, says Rainbow, they'll switch HD transmissions to MPEG4/Part 10, when set-top chip prices have fallen. [MPEG4/Part 10 has now been fixed as a transmission. See story in this issue, or www.mpegla.com]

The evolution of open standard video compression systems.

A pattern of development cycles occurs, which result in long-run continuous gains in efficiency.



Courtesy: EBU

Indeed, Morgan Stanley's senior media analyst Richard Bilotti says by this Christmas there will be 6.5m HDTV households in the US, reaching 15 million within the next 5 years. US cable is - sort of catching up. But, unlike satellite, cable has a major bandwidth problem. Currently (according to data from TV Guide in October) of the largest US cable head-ends, only 3% offer more than 300 channels, and very few in HD. The average is just 118 channels. More than half of all US head-ends offer 100 or less, while 40% offer fewer than 50 channels. The trouble is cable's typical 750 MHz bandwidth, and into that pipe must be fitted existing analogue channels, plus in the upgraded systems their digital services and the cash-generating high-speed data services. There's not a huge amount of room for bandwidth-hungry HDTV.

It is the same with cable in the UK. NTL, the UK's largest cable MSO, still has some 40% of its TV subscribers viewing analogue TV, although they are steadily being migrated to digital. It's a similar story at Telewest, and neither company has any plan for HD.

Not so at BSkyB. Some time ago they were looking at launching a HD service to pubs and clubs, and tapping another few £pounds from bar-owners. But Sky is also thinking about a higher-definition service for consumers. One technical possibility is to use existing set-top boxes but fitted with a progressive scan functionality that would give a far superior image to anything available currently, and would in particular benefit Plasma and LCD displays. Option 2 is to transmit an HD set of signals and specifically targeting high-end products. Sky, like any pay-TV platform, is motivated totally by commercial drivers and is clearly paying attention to what's happening in the DVD market where Blu-Ray and other DVD-HD movies are beginning to appear. The logic here

is that consumer 'pull' will drive a market for HD. Option 3, for European pay-TV, is that someone makes the giant leap forward and launches a 3 or 4 channel (sports, movies, natural history) cluster in MPEG4/10 and starts charging around £10/mo for the service.

Which leaves public broadcasters. Brendan Slamin, now business development manager at DTG, but formerly of the UK's Wide Screen Forum says he is not surprised. "Ten years ago we all had the various HD-MAC plans but now suddenly it is market pull which is happening everywhere. It is happening with programme-makers themselves, now increasingly producing in HD. HD-equipped TV sets in the US are now below \$1000, and there's a shortage of HD broadcast material leading to a demand on international suppliers. There's also a shift to using HD as a source material for shooting, in place of 'Super 16mm' film. It can even be cheaper. The third driver is in Soho where the post-production boys are seemingly all working in HD, in programming, cinema, advertising, pop video...."

The EBU-sponsored study of various HDTV transmission options involved Italy's pubcaster RAI, the BBC and Sweden's SVT, which have all conducted various tests using assorted new compression ratios. The EBU, is a series of Focus Groups totalling 900 viewers, also determined that at EUR2200 some 50% of the groups "would buy the panel". "One element that's key," says Slamin, "is that for the same bit-rate that we now use for standard definition and which gives such a bad picture on Plasma screens, the same bit-rate transmitted at 720p [although in an advanced compression codec] would give a highly-acceptable engineering solution for HD."

Slamin's final point was, perhaps, his most powerful. "If these flatpanel owners start complaining like mad about picture quality then broadcasters are going to have to do something. For pay-broadcasters one has to ask whether a business case cannot be created for a set of HD channels that covers the whole of Europe and its 300m-odd viewers, and what percentage is needed to create a profitable system?"



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Slamin is right. Britain, and the rest of Europe, cannot bury its Ostrich head in the sand and wish these HD-trends away, Canute like. In my view HD is going to happen, and I have to say satellite is probably the best way forward for the time being. The BBC, as far as investing in and selling HD-ready programming, already recognises this. Euro1080 has 4 months of programming in the can, and are adding to this at a rate of 180 events a year. Finally, back to SES Astra, and their Fritz Schreuder, who looks after the Euro1080 project: "Seeing is believing," he says. "And my belief is that the market for HD is going to explode once prices drop to around \$2000. We at Astra will play a major role with the EBU and the DVB group to see HDTV transmissions standardised. The end is near for CRT displays." He might be right.

HDTV: The EBU view

The European Broadcasting Union, along with various other industry technical committees, has been looking at high-definition television, and recently published its latest findings [www.ebu.ch/tech_texts/ tech_text_i35-2003.pdf] on the likely impact and use of flat-panel displays in the home. Research work was undertaken by engineering teams at state broadcasters in Italy (RAI), Sweden (SVT) and the UK (BBC). The EBU study, in particular, looked at variable bit rates, the cascading of codecs, the evolution of DVDs, the price acceptability thresholds and timescales of flat panels, and potential future developments in codec technology. Last week the ISO set the MPEG4/Pt 10-H264 Advanced Video Codec series of compression technologies into an agreed standard [see

www.mpegla.com for complete details] and prompted us to take a snapshot at the current state of play in Europe, for MPEG4 and WM9 compression and their use for flat screens.

The EBU findings suggest that most (but not all) manufacturers say the 'WideXGA' display will be the dominant HDTV home display in the years ahead. The EBU says, in this case, the best match to an HDTV broadcast environment, that uses MPEG2 @HL would be to use a 720p/50 delivery model. In this case, the maximum quality picture is available to the viewer because no standards conversion is needed in the receiver.

The EBU asks itself rhetorically: "In drawing conclusions about the potential changes needed by broadcasters to accommodate a future flat panel receiver environment, the EBU needs to evaluate the extent to which the use of AVC or WM9, rather than MPEG2, would change the conclusions drawn based on MPEG2 compression. Since both AVC and WM9 will evolve in efficiency over the coming years, the tests reported on are based on expert viewing assessments rather than subjective evaluations."

Clearly some years will be necessary for significant penetration of flat panel displays, though some predictions suggest substantial

sales as early as 2005. "If volume sales occur after an analogue switchover has occurred, further RF channels could be made available for digital broadcasting." However, an alternative strategy, now discussed by Sweden's SVT, "would be to introduce a simulcast in high definition targeting WideXGA flat panels, possibly using a more advanced compression system. There are however complex issues in deciding the trade off between quality of service in the sense of picture quality, and in the coverage areas."

The EBU has asked flat-panel makers to outline their forward market projections for the coming years in Europe. But meanwhile, the EBU's conclusions are that: "H.264 compression will produce higher quality efficiency than MPEG2 compression, at all quality levels, and needs to be seriously considered for any new digital broadcast services. However these are early days in the maturity of the system, and more time is needed to quantify the potential gains and understand the potential of the system. The WM9 compression system has been examined at HDTV level and was found to offer important gains but be less efficient that H.264 in the form

tested, though better than MPEG2." **SM**



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

CASE STUDY Introducing DBS in the Philippines: The Right Match

by Thomas van der Heyden



A pril 22nd, 2001. That's the date Dream Broadcasting launched Direct Broadcast Satellite (DBS) television for 80

million Filipinos, inhabiting the 7,100 islands of the Philippine archipelago. While the rest of the broadcast industry talks about valuation benchmarks such as Enterprise Value to Subscribers (EV/subscribers), Enterprise Value to Earnings Before Interest Tax flow and a subscriber population growing at a credible rate can decide when and if they want an IPO.

I am sure there are many of you, especially my colleagues in the Asian satellite and DBS industry, who are thinking to themselves as they read this article, "but, but..." Well lets face it. Historically the line most often heard when addressing the shareholders meeting is, "We are investing in the future." For PMSI the future comes this New Year's eve when their CFO closes out the fiscal year.

Depreciation and Amortization (EV/ EBITDA) and a myriad of other reference points and benchmarks the Dream Team has successfully focused on – Customer Satisfaction and the Break Even Date.

Dream Broadcasting was built by the dedicated team



How did they do it? Dedication, experience, focus, and caring about their customer. Again you are thinking, "We all work hard, and certainly there is no lack of experience, focus and care about our customers." Agreed, but the Dream Team developed one more advantage that helped them turn "almost" into "already". The Dream Team has investors who believe

in them and in turn the team works to the benefit of the company and the customers which in the end, is in the best interest of the investors. I can not over emphasize the value to the company, the customers and an investor, of having the Right Match of investor and management team. Especially for a start up company entering into the complicated service world of broadcasting and telecommunications.

No, money is not money. We all know there are different kinds of money from different kinds of investors. An investor who already knows the management team and has faith in them, makes for a recipe that is hard to beat. Certainly much better than looking for investors who understand the business.

ofPhilippines Multi-Media System, Inc. (PMSI) under the leadership of Cesar Reyes, a veteran of Asian telecom and broadcasting industries. Dream has been on-the-air less than three years, in a time of worldwide economic uncertainties, in a "developing country", and will break even by the end of 2003.

Beaming down from the Agila II satellite, Dream Broadcasting is the first and only DBS system to serve the Philippines and the only system in Asia to offer its investors the enviable position of being profitable in such a short period of time. Most DBS investors look forward to an Initial Public Offering (IPO) before they realize returns on their investment. Dream's philosophy is that a company which has no debt, a positive cash

Leave knowing the business up to the management of the company and an investor will have much less to worry about. It is the team who will bring the investor a rewarding future, not an investor's knowledge of the landed price of LNBs or what the distance to the satellite is. Maybe this sounds simple but it isn't.

When times are good everyone is happy, but when things are not going so smoothly is when relationships are worth their weight in stock options. The more protection an investor demands in the form of paper, the less time management has to focus on doing their job – building the business. The more strings that are attached to funding, the more time the CEO & CFO spend trying to explain why the world changed and now the business is not 'exactly' what was described in the reams 'paper' which fill the filing cabinets. Sure things are going to change, as an investor if I am not ready to trust the management, then things are not going to go well for anyone.

There is no such thing as 100% protection and that Arbitration clause you included along with the Representations and Warranty clause are not going to help much when the company is forced to close, employees have to find a new home, and the last ounce of goodwill has been expended by all parties.

In Manila the Right Match fueled the developed of a dedicated team with focus, which has built a substantial customer base of subscribers—a customer population which calls the multi-language, multi-dialect Customer Service Center to say "thank you"—and more importantly achieved a profit.

The Right Match allowed the Dream Team to build a unique system which was developed to serve the specific characteristics of the Filipino market. This team took their time to consider the customer and environment in their plans. They did not just run out and contract for a \$100 million dollar programming uplink center, surmising that if they threw enough money at the technical side of the problem the business side would be OK.

There are two axioms which PMSI has proven to be true; 'The greater the investment in planning, the lower the investment in implementation, and the fewer mistakes.' and 'You will never find a design on paper that doesn't work. You need experience to implement designs, not just a lot of paper.'



PMSI shaped the business around their customers. They developed ways for subscribers to make payments and order pay-per-view through cellular text messaging in recognition that the Philippines is a country where the cellular telephone systems almost eliminated the need for land lines in many rural locations.

For less than US\$0.05 cents for a text message, a Dream Broadcasting customer on the far side of the Philippine archipelago can order movies and pay-per-view programming 24 hours a day. When PMSI could not find the software they felt best suited their needs, they wrote their own code. Market driven, tailor made applications, helping to obtain the goal of a positive cash flow.

In October 2001 the team launched the DREAM VSAT program. Internet access, countrywide, at affordable rates. Building on top of their operational system, the DBS uplink station was expanded to incorporate VSAT. PMSI launched its anti-piracy programming using fingerprinting technology in January 2002 just 8 months after the ribbon was cut.

By December 2002, Dream Broadcasting launched four interactive channels (Gaming, Elle Health and Beauty, Elle Astrology and 'M'), a news daily and info channel via INQ7.com. Just two months later DREAM launched a new pay-per-view channel. A channel that provides entertainment and serves to unite the many different peoples of the Philippines through sharing their heritage with one another - PMSI put the Cultural Center of the Philippines On-The-Air, bringing plays, ballets, musicals and concerts to DREAM subscribers.

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The Dream Team, all PMSI employees, taking care of operations, engineering, customer care, and administration number just over 50 team members, not the hundreds that DBS companies seem to require.

In the last several months representatives from companies in other Asian countries have asked the Dream Team for help in launching or improving their DBS programs bestowing on Cesar, the Dream Team and their investors the ultimate in honors - the recognition of a job well done.



The author, Thomas van der Heyden, is the Managing Director of Asian-Pacific Consultants, Ltd., Singapore. Tom comes with some serious experience and successes under his belt, including the development of the Indonesian DBS program which in 1997 launched the Cakrawarta 1 DBS S-band satellite. Tom can be reached at vanderheyden_thomas@asian-pacific.net



VIEWPOINT

Emerging Markets from Global Trends

By Bruce Elbert President, Application Technology Strategy, Inc.

he versatility and reach of satellite nets makes them a part of the emerging market scene throughout all regions of the world. What makes the selection and exploitation of these markets so difficult for many companies is that the enabling trends lack clarity until they pass us in time. Examples in the past include the conversion from analog to digital in entertainment TV, which changed how broadcasters use satellites and fiber optics, and the extension of the Internet to developing countries in Asia, Latin America and Africa, with a concomitant demand for direct links to backbones in the west. Post 2003, trends are likely to be more socio-economic than technological, and exploiting those trends will take a new kind of determination, patience and skill.

Opening of Markets

There is something short of revolution going on in the developing regions: countries are racing to open their markets through reduced regulation and privatization of government enterprises. It is now widely accepted that state-run activities don't help people live better, and there is money to be made by allowing the better-organized and financed multi-national corporations to import what they do for a living. This is perhaps most clear in telecommunications because ordinary citizens want the benefits that wireless and Internet technologies offer them and their families. From Uganda to Senegal, and Paraguay to Mongolia, public sector providers are giving way to

"...Our ability to win the War on Terror is undeniably tied to satellite communications. A significant portion of the new demand for bandwidth and equipment is to support the war effort ..."

entrepreneurs and internationallyminded experts. The result is greater opportunity for manufacturers of consumer and industrial goods, and operators of satellite networks to step in and overcome the lack of fiber optic networks and good Internet infrastructure. Beyond improving services to the local community, satellite networks are the foundation of businesses that find their way to remote regions. In their search for lower production costs and raw materials, multi-national corporations need broadband satellite services to extend their enterprise intranets to new factories and distribution centers. These places currently lack fiber optic infrastructure and



satellite links represent the only practical means.

At a recent training course that I conducted for the US Telecommunications Training Institute in Washington, D.C., engineers and managers from the previously cited countries sought ideas and resources to make digital services more readily available at home. Satellite service providers that can reach these markets will find willing supporters in local governments and private companies.

Overcoming the Terrorist Threat around the World

Our ability to win the War on Terror is undeniably tied to satellite communications. A significant portion of the new demand for bandwidth and equipment is to support the war effort, including Operation Iraqi Freedom. The appearance of satellite dishes on the streets of Baghdad and the ensuing introduction of VSATs to provide data and video networks is something that provides considerable encouragement. Other countries in the Middle East have available satellite services from suppliers who speak their language. This is something that Thuraya has as its strong suit, having reached over 100,000 paying mobile satellite service customers.

VIEWPOINT

Saudi Arabia is moving to open its VSAT market to promote general business development to move the country closer to an industrial economic model. In time, and as the terrorist threat is countered, greater use of regional and international satellite systems should blossom along with the quality of life.

Reduction of Trade Barriers

The major economies of the world, including the US and the EU, encourage the opening of markets through the WTO and a multitude of bi-lateral agreements such as NAFTA and Mercosur. At the recent state visit of President George Bush to the UK, along with supporting statements from Prime Minister Tony Blair, the value of reducing trade barriers was emphasized. While bewildering in its complexity, the trade policies of the US, the UK and other members of the WTO establish the environment for developing countries to enter global markets. The willingness of western countries to reduce import duties and other trade barriers makes it easier to argue that they, too, should experience a reduction in barriers to their exports. Why does the mega-trend posed by the WTO help satellite companies reach emerging markets? Whether one feels it to be a trickle or flow, capital is finding its way into these developing economies. More economic activity, coupled with opportunities to export products and services, provides the money needed to purchase satellite equipment and services.

Riding the Emerging Market Trend

Making money in this sector is not a given because emerging market

operations are complex and risky in many respects. The playbook for successful market entry and strategy implementation is still being written as you read this issue of SatMagaziine. This is a time of experimentation and risk taking by satellite companies on the leading edge of the emerging markets. One of these forward-looking companies is Plenexis Holding Gmbh of Bonn, Germany. Plenexis began as a satellite service provider under Deutche Telekom, and became a private and very entrepreneurial company in the past year. They have offices in Germany, Sweden, Hungary, Turkey and Russia and teleports in Germany and Russia, as well as working with other partners throughout the Europe, Africa and CIS regions. According to Martin Bartholomew, Executive Chairman, there is a lot of demand for digital services into developing countries. However, many customers seem to believe that the service provider should also be the banker by providing all of the capital. "The key to success is to make the right capital available and to operate in the most efficient and effective manner." These challenges require that funding sources be assured and that the service provider work hard to install and manage the right resources, space and ground. Bartholomew argues that there is business to be had in developed economies as well, since high-quality fiber doesn't extend to every location desirous of broadband services. To make this business possible in target markets, Plenexis has been making key acquisitions that offered existing, profitable operations that would be managed for growth and financial performance.



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VIEWPOINT

Building a market from overseas is quite difficult and so one must put people on the ground. Technologybased joint ventures, popularized in Japan in past years, are a way to reduce the direct financial risk and potentially yield a pipeline for product and service sales. As we discussed in the August issue of SatMagazine, JSAT reduced some of its risk to build a new business in North America. They formed a 50/50 joint venture called Horizons 1 with PanAmSat to put 24 high-power Kuband transponders on the same vehicle as Galaxy 13. Now that the Boeing-built satellite is successfully launched and available for service, this new payload gives JSAT the platform to offer a variety of digital

services to Japanese multi-nationals and domestic US customers who appreciate the customer-friendly style of Japanese business. The capital to do this was more readily available in Japan, where local markets are emerging from the bubble economy of the 1990s. Any satellite company with a web site (including ours) receives dozens of inquiries from people in these emerging market countries. It is nearly impossible to sort through these properly and most end up in the recycling bin. Making business out of this will take more of a deeppocketed, hands-on approach and willingness to work the scene on foot. **SM**

Bruce Elbert has over 30 years of experience in satellite communications and is the President of Application Technology Strategy, Inc., which assists satellite operators, network providers and users in the public and private sectors. He is an author and educator in these fields, having produced seven titles and conducted technical and business training around the world. During 25 years with Hughes Electronics, he directed major technical projects and led business activities in the U.S. and overseas. Web site: www.applicationstrategy.com Email: bruce@applicationstrategy.com



December 2003

EXECUTIVE SPOTLIGHT

"We will be totally opportunistic and responsive to trends in the market..."

Interview with New Skies Satellite's CEO Dan Goldberg

By Chris Forrester

In mid-November Netherlandsbased New Skies Satellite (NSS) reported a decent set of quarterly numbers. However, the NSS headlines were focussed on comments from CEO Dan Goldberg that spoke about further downward pressure on NSS' transponder rentals. Prices have fallen on new contracts from an average \$1.5m per year to \$1.3m. We caught up with Goldberg and asked him whether he saw this as a reversible trend. "Conditions are challenging. But it would be wrong to describe the situation as being a never-ending downward spiral. Last year was tough, and 2001 was hardly a walk in the park, and I have no doubt that 2004 will still continue to be difficult. But if I really thought the industry was in a never-ending spiral I wouldn't be here! I firmly believe the overall trends and dynamics are positive in the mid-tolong term. We know we all have to chew though the over-capacity in the industry, but there are other industries out there where there's over-capacity. We are not alone. Indeed, I think it is easy to argue that our industry is in much better shape and there's no comparing the over-capacity in some other sectors of the telecom industry." He added that the greatest downward pressure was still coming from the Far East and Asian region. However, Goldberg said he saw the industry as a whole being in much better shape by 2005. "Given that December 2003

we have a typical three-year build cycle this means we may not, as an industry, see the full benefits next year but it is not much beyond that. But I do believe that 2003 will be tough, and for some that environment will continue next year. But with supply more or less capped then we have just to look at when demand will start to ramp back up. At our recent results statement I said that there is certainly some pricing pressure but we do not think this will continue forever. Indeed, our Q3 was the first where we have seen [transponder pricing pressure] for the past 7 or 8 quarters. I do not believe the industry is in some dire death spiral, moreover I see demand increasing in some parts of the world and in certain applications, and I also believe there will be further consolidation in the industry and that consolidation itself will lead to rationalisation of orbital assets."

On the question of consolidation, Goldberg was asked whether New Skies hat was in the ring as far as Telenor's Scandinavian assets were concerned. Goldberg was nothing if not the diplomatic lawyer! "There is definitely consolidation taking place right now, and we know we are in a strong position. As for a stronger Scandinavian presence making more sense, I can only repeat the old mantra of finding value for shareholders. I cannot comment on any specific market or



Dan Goldberg

company, but we will not engage in any negotiation that's value destructive. We are looking for a strong customer base, with healthy satellites that hopefully do not need replacing in the very near future. Then we look at the geographic fit of those assets, because we are global we can usually rationalise those assets wherever they are in some form or other."

New Skies has plenty of unfilled capacity with a fill rate around the 50% mark. Goldberg says there are good signs that at least some of this will be soaked up. "On the video side, HDTV is definitely a factor. Two, there's also more contribution take-up now because it is so much cheaper to collect video this way. Three, I think that the developing world is going to start doing things that the developed world did ten and 15 years ago, like DTH platforms and exporting its content to expat communities. These three

EXECUTIVE SPOTLIGHT

will definitely help the video side. On the data/voice portion of the business I see governmental business just continuing to grow, and the trend is definitely to increased traffic from these customers. The same is happening in the developing world where deregulation is taking place helping with competition, and lowering of prices which will lead to more business. It's the same on the hardware side, where equipment prices continue to fall helped by standards like the DVB-RCS. These services will soak up meaningful slices of bandwidth. We also need to keep an eye on how satellite will fit into 3G services, although I suggest that these services may take a little longer to catch on with the consumer. Streaming is an obvious application but this may be still a few years away before it starts making demands on our capacity, but it will be there."

Specifically asked whether he saw HDTV making an impact outside the USA, Goldberg said he did, although the now enthusiastic take up of HDTV in North America could end up presenting another set of problems for the industry. "As far as HDTV is concerned, certainly over the USA, I think we are beginning to see real shortages in capacity. Operators see problems confronting them and when operators like DirecTV start repurposing services like the Spaceway [service] then this might be a very real response to those capacity challenges." "As to elsewhere, the short answer is 'yes'," said Goldberg. "We see this already and the green shoots for HD are quite definitely in place. Roughly 40% of our business comes from video and much of that

NEW SKIES FLEET

Satellite Location

NSS-5	183° E (177° W)
NSS-6	95° E
NSS-7	338° E (22° W)
NSS-8*	303° W (57° E)*
NSS-703	303° W (57° E),
NSS-806	319.5° E (40.5 W)
IS-603 (Incl)	340° E (20° W)

Note: NSS-8 is slated for launch at the end of 2004, when it will replace NSS-703 which in turn will go to another location

is over Latin America which has suffered of late, so we also see ourselves benefiting strongly from HD in that region. We also have an interesting slot over the US at 125 deg West where we have priority rights on Ku-Band frequencies, and we did what Americom essentially did which was to secure the BSS frequencies at that spot and this offers some interesting opportunities. Working alongside us are Echostar at 119 deg W, and there are some filings from Canada and Mexico [at 125] but we think there are ways that our filings could be worked harmoniously with their rights. We also have a pair of C-Band slots at 105 and 121 deg W, and if C-Band satellites over the US really are full up with HDTV distribution then we can consider expansion into those kinds of satellites."

We questioned Goldberg on his future expansion plans given that lead times for new satellites are so long: "It's difficult to predict 5 years down the road, but I am bound to

say again that the answer is 'yes'. We will be totally opportunistic and responsive to trends in the market, and believe me we follow it closely. If we agree a strategy, and the lead time is sound, and we see the market dynamic of a market changing then we'll move to bring capacity on line. Now obviously we also look at what others are doing on the supply side, but we also work closely with our customers and when they can see a capacity problem looming then we look to see what sort of solution we can provide today. We'll be looking to mitigate our downside risk but always with the aim of giving them the capacity they want when they need it."

New Skies has its own teleport just outside Washington DC, and has cultivated strong relationships with players like the UK's Kingston inmedia. Kingston is rumoured to be up for sale, and with Globecast soon to be in new hands and seemingly teleports for sale all over the planet, we asked New Skies

EXECUTIVE SPOTLIGHT

	3 months ended September 30		9 months ended September 3	
US\$ millions (except per share amounts)	2003	2002	2003	2002
Revenues	\$54.1	\$48.7	\$160.8	\$149.7
Net income (loss)	2.7	3.5	9.4	(9.1)
EBITDA (adjusted)	30.1	27.0	89.7	82.5
EBITDA (adjusted) margin	56%	55%	56%	55%
Basic and diluted earnings per share	0.02	0.03	0.08	(0.07)

whether teleports represented a business opportunity: "Potentially we are driven by a simple equation: how much business can we drive from those teleports? The strategy we have pursued has been pretty effective. We get to focus on what we are good at, and leverage the resources and expertise that we or our partners have. There might well be times when we might own the teleport, as we do in Washington. We'll do this on a case by case basis. As far as teleport assets are concerned, all I can say is that the owners of these businesses must be realistic as to the state of the market."

Latin America, before the economic downturn, was a good market for New Skies. Goldberg is again optimistic: "We see real light at the end of that tunnel. We were formed in 1998, and in 1999 we did a fairly significant amount of business out of Latin America and that continued until half-way into 2000 and then we all got hit, by Argentina and Brazil and then the whole region. Business in 2001 and 2002 were terribly tough. This year we have started seeing some improvement, especially in Brazil. Argentina is not coming along as quickly, but we are seeing

improved conditions and we have been a beneficiary for the first 9 months of the year." As to 2004's satellite hot spots, Goldberg said there are no secret markets: "Africa and the Middle East are really picking up, and Latin America is beginning to show promising signs of improvement. Asia has the promise to have a turn-around but things seem to take longer in that neck of the woods!"

SM



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MARKET INTELLIGENCE

Presented by the Global VSAT Forum

And Now for Some Good News... Latin America

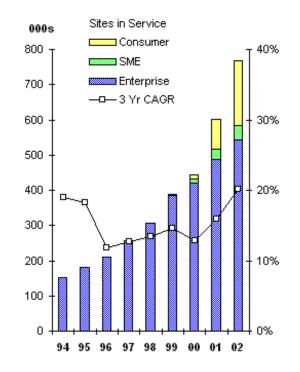
By Martin Jarrold Director, International Development, GVF

In continuing fulfilment of its strategic objective to promote the capabilities of the satellite communications industry, the GVF was recently again active in Brazil, at Futurecom 2003, a smaller-scale show than many, but with a ready focus on the business of doing business... and new satcoms deals were forged.

Not the least of which will soon bring the first Latin American twoway satellite broadband multimedia network to a Brazilian market hungry for an advanced broadband infrastructure to service the commerce of ISPs, ASPs, and VPNs, as well as the demands of distance learning, telemedicine, and rural telephony. That deal will not only bring a significant boost to the digital inclusion of Brazil's vast population and the cost-sensitive small-scale enterprise sector, will not only bring additional focus to the unique capabilities of satellitebased networks, but also bring a boost to Brazil's domestic electronics sector – the manufacture of the satellite terminals for this new network will take place in northern Brazil.

Of course, enabling many thousands of end-users in the SME and SoHo markets to access high-December 2003

Enterprise, Consumer and SME Growth



Source: COMSYS, 2003.

speed, broadband multimedia Internet *over satellite* for both downlink and uplink, removes the problem of unreliable, and costly, terrestrial infrastructure for the communications return channel. Equally, both satellite operator/ network provider and manufacturer in this particular Brazilian deal have now demonstrated that they are optimistic enough for the immediate future of the Brazilian communication market to have committed to ink-on-paper.

Undoubtedly very good news, particularly when Latin America is

still so strongly perceived as providing some of the more critical examples of economic and financial restraint, affecting particularly – though by no means exclusively – the telecommunications sector.

In fact, it is true that over the last two years Latin America is the only region to have demonstrated an absence of any market growth in the business which still, to this day, provides the very core of satellite business activity – the corporate network. Whilst it has been a clearly observable pattern over the last decade or so that America's SATMAGAZINE.COM



MARKET INTELLIGENCE

percentage domination of the installed base of VSATs around the globe has declined, according to the recently published new edition of the COMSYS VSAT Report (www.comsys.co.uk) it is still North America which continues to predominate in the Star TDMA market in terms of sales, new segment penetration and new applications development. Enterprise sales service revenues have consistently grown over this period with large enterprise orders showing a significant upturn in 2002. But in addition, and significantly, terminal costs have hit the long-awaited US\$1,000 price tag which, because of a combination of affordability and psychological considerations, is a significant benchmark for future accelerated take-up in markets like Brazil's.

Whilst the optimism for the entire satcoms industry which quite naturally follows from news such as this must be tempered with caution – the industry has of course learned much from the recent very hard lessons of, for example, economic downturn and lower than forecast demand for new satellite services directed specifically at the consumer market – but, there is still more reason to be cheerful.

As already noted, outside of the larger-enterprise market, there are the SME and SoHo broadband access markets. New TDMA systems coming on stream to target end users in such diverse sectors as cybercafés and small independent farmers are unsurprisingly IPcentric. Latin America features as just one of the regions – also Africa and the Middle East – served by such broadband access platforms hubbed out of North America and Europe. Vendors of such services have re-focused their business models to bring differently packaged services to the market through networks of Value Added Resellers, a departure from the customisation model employed for the more traditional large enterprise markets.

For those Latin American markets having to deal with the long-term consequences of significant currency devaluation - increased international loan repayments, more expensive imports - there is a significant flip-side, certainly for those sectors of the various economies which have numbered amongst the traditionally communications disenfranchised: products priced in local currencies are cheaper for the rest of the world outside of Latin America. For example, the producers of primary products - throughout the vast farmlands of the continent – are

themselves focused on bringing added-value to their own otherwise increasingly commoditised crops, and need cost-effective communications to find and define the markets for their own niche enterprise initiatives. Fibre has enfranchised some Latin American city dwellers; it will not penetrate to the non-metropolitan and rural markets any more successfully than simple economics has dictated in the past. Such opportunities are being recognised by the satcoms industry, and the benefits of this one example of the new economics of broadband connectivity enfranchisement are there for the satellite industry's taking.

A post-financial crisis, but still restructuring, satellite industry is emerging from its own niche-market focused *history*. New customers have been identified, targeted, and already relieved of some of *their* cash. Broadband access for the SME and the SoHo is definitely the *future*. SM

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