



**Your Satellite Connection
to the World**

SES GLOBAL



The Telecom Market: Boom and Bust Past and an Open Future



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NOTE FROM THE EDITOR

We May Have Turned a Corner

This month marks what could be one of the most pivotal ITU Telecom shows to date. Held like the like the Olympics only once every four years, the ITU Telecom World Forum and Exhibition is usually a very good gauge of the industry's overall health and where it's going.

By all accounts, this month's ITU show will be less extravagant and ostentatious an affair as in the past. The telecom industry has been on a downward spiral which saw major players such as Worldcom and Global Crossing filing for bankruptcy. However, analysts seem to agree that the worse may be over. Major telecom companies have been reducing its heavy debt burden by getting rid of non-performing assets and sticking to their core businesses. They have also lessened their dependency on the telephone business and are developing new business such as broadband for their future growth.

Although telecommunications still consists a substantial portion of the satellite business, it has been gradually diminishing as new applications are gaining ground. However, telecom and related services will still be one of the mainstays of this business and should not be written off anytime soon. It will be interesting to see, though, how the telecom market will rebound and what new services and applications will arise from all this.

Meanwhile, now on our sixth issue, SatMagazine is slowly establishing itself as one of the important sources of information on the industry. We have received very good response from our readers and we encourage more of this. We take every comment and suggestion very seriously and actually have implemented one of them in this issue with the introduction of a "Financial Snapshot" section which give a financial analysis of a company.

One of the benefits of an electronic medium is that we can deliver up to the minute information as it is developing. Also, with the savings on postage and printing we are able to focus our resources on content--in orde to provide you--our readers--with the most accurate, incisive and timely information.

Read on.

Virgil Labrador

(In addition to managing editor of SATMAGAZINE, Virgil Labrador is the editor of the subscription daily service, *Satnews Daily* and the free weekly website, *Satnews Online*. He can be reached at virgil@satnews.com)

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CALENDAR OF EVENTS

OCTOBER

October 2-4 Vicenza Fair, Italy **SatExpo 2003**
Tel. +39 0444 543133 E-mail: promospace@satexpo.it Web: www.satexpo.it



October 10 Geneva, Switzerland **GVF Annual General Assembly and Satellite Industry Summit**
Tel. +44-1727-884-627 Fax +44-1727-884-839 E-mail: helen.jameson@gvf.org Web: www.gvf.org

October 12-18 Geneva, Switzerland **ITU Telecom World 2003**
Tel. +41-22-730-6161 Fax +41-22-730-6444
E-mail: telecominf@itu.int Web: www.itu.int/world2003

October 14-17 Washington, D.C. **Satellite Uplink Operators Training Seminar**
Tel. 202-429-5346 Web: www.nab.org/scitech/satsem2003.asp

October 15-17 Mumbai, India **Satellite & Cable TV India Trade Show 2003**
Tel: +91-22-2494 8280 /+91 -22- 2498 4273 Fax no: +91-22-2496 3465
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October 23-26 Istanbul, Turkey **Cebit Broadcast, Cable and Satellite Eurasia**
Tel: +90 212 245 3778 Fax: +90 212 245 3603
E-mail: info@hf-turkey.com Web: <http://www.hmist.com.tr/cebit-bcs/en/idx-en.htm>



October 28-30 Beijing, China **China Satellite 2003**
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INDUSTRY NEWS

GPS Market to Reach \$ 22 Billion By 2008

With units available for less than \$100, global positioning system (GPS) receivers are now affordable to the masses, enabling applications unthinkable just 18 months ago. These emerging applications, plus renewed growth in existing markets, will help propel the global GPS market north of \$22 billion by 2008, according to technology market research firm ABI.

GPS consists of a cluster of two dozen satellites enabling devices to pinpoint their location within feet of their actual location. New applications on the rise include people tracking, automatic vehicle location (AVL), asset tracking, and recreational use. "On the automotive platform, GPS has enabled a host of new telematics applications, from tracking a teen's use of the family car to automatic tax collection for interstate trucking companies," states Frank Viquez, Director of Automotive Electronics at ABI.

"GPS is the engine driving much of the telematics industry," he adds. In a study recently released by ABI, equipment for the automotive and asset tracking segments will account for nearly 50% of the global GPS market by year end 2003 and will continue to gain share through 2008. Further findings indicate that handset and people tracking markets will experience the largest growth rates, significantly outpacing the overall market growth of 12% through 2008.

The study also examines the market for GPS integrated circuits (ICs). Though unit growth will be very

strong in the GPS market, continued pricing pressure for ICs will temper overall revenue growth to about that of the overall equipment market. The study, "GPS World Markets: Opportunities for Equipment and IC Suppliers," examines the current status and trends of the global positioning systems industry. Covered areas include wireless and in-vehicle navigation, as well as growing segments such as recreation, communication, people tracking, marine and surveying, among others. For each segment, total market value is forecasted to 2008 in addition to regional totals. An analysis of key market drivers and barriers for each segment is presented. The report also quantifies the market for GPS IC shipments, ASP and revenue to 2008.

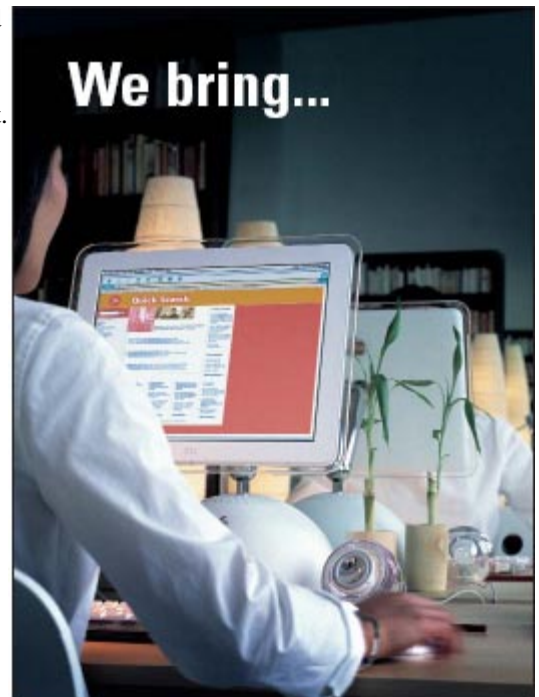
For more information on this study, go to <http://www.abiresearch.com/reports/GPS.html>

Arianespace Flight 162 Carrying SMART-1, e-Bird and INSAT 3E Launch Successful

Arianespace's Flight 162 successfully launched the European Space Agency's SMART-1, Eutelsat's e-Bird and India's INSAT 3E satellites last Saturday, September 27. Lifting off from the ELA-3 launch complex at Europe Spaceport, the Ariane 5



completed its intricate mission to deploy INSAT 3E for the Indian



...the content to the web

Your Satellite Connection to the World

The SES GLOBAL companies bring high-speed communications solutions to millions of homes and offices worldwide. The SES GLOBAL family consists of the world's premier satellite operators, each a leader in its respective market: SES AMERICOM in the U.S. and SES ASTRA in Europe, as well as the partner companies AsiaSat in Asia, Star One and Nahuelsat in Latin America, and SIRIUS in Europe. This network provides satellite communications solutions across the globe, with the unequalled depth of service and audience that only regional market leaders can provide.

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INDUSTRY NEWS

Space Research Organisation, e-BIRD for Europe's Eutelsat and SMART-1 for the European Space Agency.

"Flight 162 is the first time Ariane 5 has launched three satellites, and I am pleased at this new success," said Arianespace CEO Jean-Yves Le Gall during post-mission comments at the Spaceport's control room. "It also is the first lunar spacecraft ever carried by Ariane, and judging by the precise orbit for SMART-1, it is well on its way to the Moon."

Wi-Fi Continues to Experience Growth

The Wi-Fi hotspot industry continues to experience tremendous growth, aided by lower pricing points and standardization of technology. Technology market research firm ABI believes that this growth will continue to accelerate, as companies and consumers adopt usage of the technology at a faster pace. One of the key beneficiaries of this growth is Wi-Fi access point suppliers, with shipments to hotspots growing about 50% on a compound basis to 2008. This growth, however, is not without its pitfalls.

"The Wi-Fi market continues to be competitive, but the market is large enough for players to carve a niche in this segment," explains Rerisi. He adds, "New solutions at the chip level, like those from Atheros, coupled with advances in technology can shape this equipment segment."

"The Wi-Fi market continues to be competitive, but the market is large enough for players to carve a niche in this segment," explains Rerisi.

For more information on this study, go to <http://www.abiresearch.com/reports/WLPS.html>

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EXECUTIVE MOVES

Bryan McGuirk Joins SES Americom to Lead Domestic Entertainment & Enterprise Business

Bryan A. McGuirk has been appointed as Senior Vice President of Domestic Satellite Services for SES Americom. In this role McGuirk is responsible for building the company's core entertainment and enterprise businesses throughout the U.S. McGuirk has extensive experience with business and sales issues associated with developing media-based businesses. As the President, Programming and Advertising of California-based OpenTV, he was at the forefront of many interactive

programming developments for both advertisers and programmers. Added to that are executive and management responsibilities at TViFusion, a digital cable network development and operations company; NBC Television Network, in both affiliate relations and NBC Asia; and Turner International, launching CNN, TNT and Cartoon Network in Asian markets. McGuirk received his BA in Managerial Economics from Union College in Schenectady, and his MBA from Emory University in Atlanta. He is active in many industry associations including serving as a board member of the Interactive Television Alliance.



Mary Frost

Mary Frost Appointed as Senior Vice-President of Sales, Globecast North America

Mary Frost has been appointed as Senior Vice President of Sales at GlobeCast America. GlobeCast As Senior Vice President of Sales, Mary Frost will be responsible for overseeing both domestic and international sales in America. She

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EXECUTIVE MOVES

will be based in the company's sales and marketing office in New York City .

Frost comes to GlobeCast with over 18 years of experience in the broadcast industry including news, telecommunications, broadcast operations and engineering and general management in Disney/ABC and WNET/Channel Thirteen. She has extensive sales, marketing and consulting experience as General Manager for Price Waterhouse Coopers and North American Regional General Manager of ICO Global Communications. Most recently, Mary served as President of NewMedia Technology, Inc. and CSI, Inc.

Space Systems/Loral Assigns Greg Harms and Bill Weller to Asian Region

Satellite manufacturer Space Systems/Loral (SS/L), announced that Greg Harms and Bill Weller will assume marketing and sales responsibilities in Asia, succeeding Dr. Paul R. Davis who retired in August.

Harms, marketing and sales vice president and a seasoned professional with 25 years of experience in the satellite industry, will be responsible for SS/L's customers in Japan and Korea, in addition to his current responsibilities in Europe.

Weller, a marketing and sales vice president at SS/L and 26-year satellite industry veteran, will team with Harms, supporting customers in Japan, China and Hong Kong in addition to his current responsibilities in North America.

Mr. Tony Colucci, marketing and sales vice president, continues to

be responsible for supporting customers in South Asia and the Middle East.

XM Names New SVP of Sales and Marketing Solutions

XM Satellite Radio, Inc. announced that D. Scott Karnedy, will become the company's Senior Vice President of Sales and Marketing Solutions.

Karnedy comes to XM from Infinity Broadcasting where he was Senior Vice President and Director of National Sales. He began his career 20 years ago in advertising sales for local radio and television, and eventually became responsible for AOL Time Warner's interactive properties' sales and marketing in both Detroit and the Northeast.

Scopus Appoints Rajiv Thapar to Head New UK and Scandinavia Office

Scopus Network Technologies announced the appointment of Rajiv Thapar to head its new U.K. and Scandinavian office.

Scopus' new office will further concentrate the company's European strategy of being closer to its customer base in the region as well as provide greater support to local customers and business partners while building up a team of highly competent professionals. The new office will broaden Scopus' European infrastructure and, alongside offices in Frankfurt and

Moscow, continue to cover the continent.

Scopus' VP of Sales, Mr. Tamir Galili, remarked that northern European sales are moving forward and the new office will further stimulate Scopus' reach in the region." **SM**

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COVER STORY

ITU Telecom '04: The Demarcation Between our Boom/Bust Past and an Open Future

By Bruce Elbert
President, Application Technology Strategy, Inc.

While the scale and lavishness of the ITU Telecom Expo has declined, the value and promise of the total information/communication industry remain extraordinary. My first exposure to this show was nearly 30 years ago when the transition from analog to digital POTS was all the rage. The booth of my employer at the time, Hughes Aircraft Company, while representing the leader of satellite systems, was small enough to be totally lost. Today, satellite companies in all segments have prime space at exhibitions like ITU Telecom.



The satellite telecom industry has grown impressively to nearly \$100 billion, about 20 times in real year dollars and 5 times in true worth. We can stand very proud, no longer yielding to terrestrial giants that are prehistoric in relation to the Information Age. Some pundits question our future at this time and place, pointing out financial losses for many, layoffs in satellite manufacturing, and the lack of support for programs like Astrolink and Teledesic. Such disappointments humble us, yet are small compared to what the “tech wreck” has wrought on millions of investors. Let’s review the build up to this picture.

As recently as 10 years ago, traditional telecom was a rather staid industry, but one which knew what its basic mission was. It adopted technologies slowly at times, being comfortable that disruption was at a minimum (e.g., PTT-friendly). Twenty years prior, we saw how national telecommunications requirements in telephone and television could be addressed by GEO

satellites at costs comparable to existing radio and cable technology. Telesat in Canada and Palapa in Indonesia aggressively put forth satellite network topography to meet 100% of national requirements. They, like Eutelsat, chose the traditional approach of government sponsored development; meanwhile, the US pursued an “Open Skies” policy under President Richard Nixon to give any company with the plan

and capability to launch and operate a satellite the license to do so. No less that seven companies ended up going into the business; through consolidation, three remain.

It has taken 25 years for Open Skies to define how C- and Ku band space segment is delivered to the global market. Major operators are all private companies and no longer depend on governments for direction and support. Satellite communications is a free-market business and users have options never thought possible before. Like other competitive markets, a user requiring satellite capacity must thoroughly investigate which satellites might provide appropriate coverage and performance. From there, it’s simply a matter of contacting the associated satellite operators, working out the technical and business terms (including price), and entering into what amounts to a private contract. This, in my opinion, is a revolution in what was previously a highly controlled and regulated business. Not all satellites, orbit positions and operators are created equal; however, the business practice is quite uniform

COVER STORY

regardless of where in the world the user is working.

The established satellite service providers at GEO have weathered the telecom bust fairly well (the Loral reorganization notwithstanding). But, why was there such a massive melt-down in the telecom industry? Promoters, financial engineers and management consultants got into the picture. They know enough to be dangerous, but not enough to succeed in the long term. A partner in a major international management consulting firm told an audience at ITU Telecom Asia 2000 that the largest telecom operators in Europe had “no choice” but to bid on expensive 3G spectrum. That this advice proved disastrous is a matter of record (to learn more about the role of consultants, see *Dangerous Company* by James O’Shea). We have our own parallels regarding LEO MSS, demonstrating the old aphorism, “just because you can do something doesn’t mean you should”. This problem has not befallen solid profit-making businesses like SES Global, PanAmSat, JSAT and Intelsat.

The same forces that created small fortunes out of big ones have built a fabulous resource called the Internet. This has produced an honest-to-goodness revolution in how individuals, companies and governments communicate internally and with each other. Wireless communications, particularly cellular, is replacing POTS as the central means of personal communications. Broadband access through wired and wireless media is the current area of rapid growth.

A satellite innovation to match this is the Thuraya GEO MSS system that is building a solid regional business using an appropriately scaled platform. It was recently suggested to me that being a bit late to market has permitted Thuraya to bridge the melt down gap; the company is positioned to accomplish the next challenge – reaching more than 500,000 subscribers.

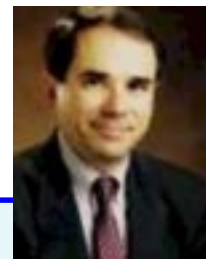
Another parallel innovation is two-way broadband communications via satellite. Satellite companies have embraced these developments and are offering their own flavor to extend networks for business Intranets, our basic protection and safety, and to help address the digital divide. Applying satellite communications is easier today than it was in the 1970s, with innovations like high-power Ku band transponders, DVB-S, turbo coding, and new

approaches to fixed and mobile antennas. ConnexionSM by Boeing is a good case in point, initially offering Internet access to airline passengers on trans-Atlantic routes. The network can be expanded for global reach to a wide variety of mobile platforms. Without the existing satellite infrastructure, CBB might still be another paper design. However, it is a real system that delivers a service that meets user expectations.

This takes us to a new level, not one based on promotion and inflated expectations. Rather, satellite communications promises to finally connect the world, to paraphrase Intelsat. In doing this, the successful companies are those who can integrate terrestrial and satellite communications. This means learning the details of how terrestrial networks and user devices tick and how satellite links may beat ground-based cables and towers at their own game.

The size of the broadband/mobile segment is yet to be discovered; but if you can economically and effectively service mobile users, the fixed markets can follow. I’m optimistic that the satellite industry can leverage its primary benefits of wide area coverage and low cost of entry to bring about changes in economic conditions in these changing times. Satellites have two new legs – mobility and broadband – yielding the freedom to do what you need to do anywhere you want to do it. ITU Telecom’04 is the venue for the process to extend satellite airwaves to new levels of information access and freedom of movement.

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

FEATURES

SES GLOBAL: More Optimistic about 2004-5 AsiaSat Looks for Acquisitions

SES Global turned in some interesting results for its 1H/2003 results in September. Currency fluctuations (in particular the Dollar/Euro relationship) hurt its overall revenues with total revenues declining €9m (9.8%) to €42m (2002: €12m) but still represented an EBITDA margin of 80.1%. Excluding currency exchange factors, themselves calculated at representing €4m out of the €9m fall-off in revenues, revenues remained stable compared to the prior year period, said CFO Jurgen Schulte. Group profit fell 8% to €15m (2002: €25m). Contract backlog rose to €1.1bn with over €1.0 billion of new and renewed contracts being added in the period. Americom's fill rate stood at 63% ("and some upside potential"), while Astra's fill rate was 82%.

CEO Romain Bausch told analysts that SES Global now had a technical free-float of its stock of some 23%, almost at the threshold of a target 25% actual that is seen as essential for a wider Stock Exchange listing. However, he also said that a technical free float was not the same as a real market in shares and

another European listing besides its existing Frankfurt/Luxembourg listing was more likely than not.

Bausch also spoke about the overall surplus of supply over demand, and said that AsiaSat's revenues had declined owing to "severe price competition" and that a couple of its local competitors were employing "very aggressive" price discounting. Latin America also suffered similar pricing pressures. "The only difference, or advantage, that we have in Asia is that AsiaSat operates three out of the four main orbital slots that are co-ordinated for C-Band coverage from Eastern Europe to New

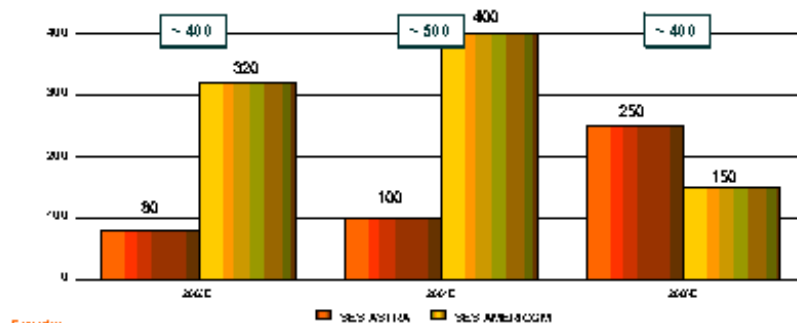
Zealand. Small or start-up companies are not quite so prepared to pay realistic prices for this capacity." As for Europe he expected growth to be maintained in the European DTH market, with expansion prospects in Eastern Europe. "Astra and our other operations are also beginning to benefit from Americom's experience in winning governmental contracts," said Bausch.

As far as financial guidance for the rest of this year is concerned, Bausch said revenues would decline "slightly" compared to 2002 "mainly due to the absence of non-recurring items. EBITDA margins will stay

SES Capital Expenditure Programme

- ▲ Capital Expenditure of approximately EUR 150 million in H2 2003
- ▲ SES ASTRA replacement of 1K to be launched by Q4 2005, 1L in Q4 2006
- ▲ SES AMERICOM to launch 5 further satellites during 2003-2004, providing replacement and additional transponder capacity (approx. 2/3 of the CapEx has already been spent)
- ▲ Rigorous targets for each satellite (IRR)
- ▲ Maximise pre-launch fill rates and utilisation/ramp up

Approved Satellite CapEx programmes, 2003 to 2005 EUR m



Footnote:
 - CapEx of SES Group consolidated until June 2003
 - Expenditure based on 1 EUR = 1.12 USD (Forecast 2004), 1.15 USD (Years 2004 and 2005)

FEATURES

strong at around 80% in the core business and income will be at about 2002 levels. “We expect to see revenues in 2004 helped by improvement from America-To-Home (A2H) and further new contract wins in Europe. Contract backlog is expected to continue rising,” added Bausch. “A2H is facing an interesting demand for capacity on its new AMC 10 and 11 satellites.” He was also looking at opportunities for Americom because of the uncertainties over the acquisition (probably by Intelsat) of some of Loral’s satellite assets.



SES GLOBAL CEO Romain Bausch

SES’ capital expenditure is being trimmed some 25% this year. Capital expenditure specifically during the half-year stood at €01.8m (2002: €29.7m) with the reduction of €27.9m arising primarily at SES Americom due to the timing of certain milestone payments on the AMC-12 and AMC-13 procurement programmes both of which launch next year. At both Astra and AsiaSat, capital expenditure was at a lower level than in the prior year due to the completion of the Astra 1K and AsiaSat 4 programmes respectively. That position will change now that orders are in place (with Lockheed Martin) for Astra 1KR (launch expected in September 2005) and Astra L (August 2006) are in place.

During the half-year Bausch said SES had cut Group debt by 23% to some €bn (from €.66bn) helped by strong cash flows, while Astra enjoyed “substantial” new contract wins. However, there was some impact from the SatLynx activity

which cost the company €1.9m overall, helped by a €2m revenue stream, but Bausch still spoke optimistically about SatLynx’s prospects for moving cash-flow positive in 2005. SES also predicted a successful roll-out

of its A2H DTH operation scheduled for later this year. “As Astra has shown in Europe, we will export this DTH model to America.”

With SES Global now owning 100% of Americom Asia-Pacific (AAP) in the Far East (they bought Lockheed Martin’s 50% at the end of June), and following on from AsiaSat’s statement two weeks ago that they themselves see “active” acquisition possibilities in their region, Bausch said the purchase of the remaining 50% in AAP represented a “first step” the company’s rationalisation process for the region. “Owning 100% is the first step. Next we have to bring this asset into our structure and this gives us some options. We might consolidate AAP with our other regional assets which could mean AsiaSat. We might also make AAP part of our plans for international business activity, which has the working name of

CrossLinks. We might also rationalise AAP by moving it to another part of the world and combining it with other SES assets. There are also other opportunities, as AsiaSat’s management has already spoken about. It is quite likely that there will be more consolidation occurring around AsiaSat in the next months.”

Bausch also spoke about SES Astra’s “third orbital position” at 23.5/24.2 East (made up of Astra 3A and 1B) supplying services for Deutsche Telekom amongst others. SES uses German frequency filings for 3A’s spot and this will continue, says Bausch. As for 1B it supplies “new geographic markets” for Astra, generally in Eastern Europe like Poland, the Czech Republic and Hungary. However, SES is considering moving 1B to a more “optimised” location better able to serve these markets. **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

VIEWPOINT

Finding Growth and Profitability in Enterprise Markets



By Alan Gottlieb

There is a new reality settling into the sales offices of satellite providers these days. The phone just isn't ringing much anymore, and sales staffs and their bosses are sweating out slowing sales and the pain of shrinking margins and commissions. Awash in excess capacity and choking on an expansive network of fiber, senior satellite executives are seeking strategies to improve their position in what has become a commodity market.

What they are experiencing is not new. We have seen it in Oil and Gas and in Mining and in other industries. However, unlike the long term slowdowns that affected these industries, satellite operators and resellers have a unique opportunity to improve their business in the short term. Increased demand for bandwidth and value added solutions in enterprise vertical markets offer savvy providers the opportunity to build business models around a profitable, new, value added framework.

Just what are these vertical markets and how can the satellite provider gain entry and build a profitable market position? During the last year, Gottlieb and Company, under a major contract with Verestar Inc., has addressed just these questions. To find the answers, we developed a unique approach combining on-site market research interviews with a pre-sales introduction of our client and their services.

We then traveled to Southeast Asia, South America and Europe interviewing dozens of IT and communications executives in Oil and Gas, Mining, Pulp and Paper, Hospitality, International Construction and other industries. In doing so, we gained an understanding of customer need,

developed industry specific product/services packages, and built relationships that have lead to significant business opportunities. For those satellite operators seeking the same sort of landmark success, we offer some of the lessons learned.

“...Selling commodity bandwidth to enterprise markets is no longer a viable strategy. Winning business means selling value added solutions to defined vertical markets...”

Add Value

Selling commodity bandwidth to enterprise markets is no longer a viable strategy. Winning business means selling value added solutions to defined vertical markets. In essence, satellite providers need to accept the fact that, like it or not, customers want and buy complete solutions to their problems. Those firms able to

provide such solutions will establish themselves as true value added providers and “own the customer.”

Target Vertical Market Niches

Each vertical market is different. While we found that enterprise markets share certain common requirements such as turn-key contracts, we discovered that understanding and satisfying industry specific needs generated the greatest interest in satellite solutions. For example, we discovered that Oil Industry customers have a unique need for very short term contracts and that firms in the International Construction Industry placed a great deal of emphasis on rapid deployment of communications services. By gaining an understanding of such requirements, it is possible to structure product/service packages that solve real problems and win real business. To find out what customers really need, you have to meet them face to face and assess their needs. Here's how.

VIEWPOINT

Open Doors

Senior IT managers are pretty busy these days, and the last person most want to see is another salesman, especially one from an industry that has never paid any attention to them. Introductions to these executives are best achieved by offering them an irresistible benefit and the promise of an open meeting environment free from any sales pressure. In such an environment, respondents could freely express their problems and interests and learn about new technologies that could benefit their companies.

Hence, we discovered that a market research offers the ideal vehicle for gaining the market information we require and opening the door for sales follow up. Using this approach, Gottlieb and Company has been able to penetrate such industry giants as General Motors, Bechtel, HP, Caterpillar Tractor, Baker Hughes, Halliburton and many others. As expected, informative interviews with IT Managers in such companies yielded specific information on market requirements and produced the initial contacts needed to generate initial sales.

Package and Market Solutions

Once customer requirements are defined, specific industry focused solutions can be developed. In some cases, developing an attractive offering that meets a specific need can be relatively straight forward. For example, offering rapid deployment products and services and leasing to the International Construction Industry in an attractive package can be a key sales strategy. With such offerings in place, chances of winning business are significantly improved.

Target Market Leaders - Move down the Vertical

Those that understand the corporate mentality know that trends are set by industry leaders. Sell a leader and competitors will tend to follow. Therefore, concentrating the sales efforts on industry leaders becomes the best way to enter a vertical market. Of course, quality control and customer service become critical issues when selling in vertical markets. While an excellent performance for an industry leader will win followers in a vertical market, a bad one will be difficult to overcome. So, special efforts to control quality and assure customer satisfaction need to be taken.

In Conclusion

As in many industries, the old business model is no longer wholly functional and needs to be changed. Implementing such change is never easy and will require support and commitment from top management. Penetrating enterprise vertical markets through solution selling requires significantly greater effort and sales forces will have to be retrained. However, for those firms bold and creative enough to embrace the realities of the new market environment, the rewards will be higher margins, insulation from the brutal commodity markets that cycle through our industry, and a much more sustainable path to long term growth and profitability. **SM**

Alan Gottlieb is CEO and Principal Consultant at Gottlieb and Company, Inc. His most recent assignment for Verestar Inc., opening of enterprise markets in Oil and Gas, International Construction, Pulp and Paper, Hospitality and Call Center Industries, employed an innovative combination of on-site market research interviews and specialized sales technique to produce market entry strategies as well as generate initial sales. Mr. Gottlieb's career is an unusual combination of management level market research in the Oil and Gas Industry and sales leadership in international telecommunications. At Combustion Engineering (CE Vetco) and Baker International Corporation (now, Baker-Hughes), he directed and managed international market research. Mr. Gottlieb also served as Vice President of Sales for Southeast Asia for Audiovox Communications Corp., Director of Sales for Southeast Asia for Aether Systems, and Director of Sales for Southeast Asia for COMSAT. He is a native of Washington D.C. and holds a Masters Degree in International Business (MBA) from Thunderbird Graduate School in Arizona and a B.A. from Stetson University in Florida. He can be reached at agottlieb@gottliebandcompany.com

FEATURES

BBC to Export Play-out Model

by Chris Forrester

The BBC is changing. Readers will know all about BBC Worldwide, its commercial programming and merchandising arm, and the division behind international channels BBC World, Prime, America and Food. But the BBC has also floated off BBC Ventures Ltd, a wholly-commercial enterprise that under its umbrella looks after BBC Broadcast, BBC Technology, BBC Resources and BBC Vectra. Four major business units that last year generated £440m (\$708m) in revenues from its 4000 staff. Ventures, along with BBC Worldwide, are charged with raising £1.1bn in additional commercial revenue, and to deliver £300m-worth of cash and cost-savings as the BBC itself leads up to the next charter renewal in 2006.



“The commitment to expand exist, and the capital is ready to invest. We are just waiting for the right opportunity to come along.”

- BBC Ventures CEO Roger Flynn

In February 1996 the UK government granted the BBC a 10 year ‘charter’, with a generous digital dividend designed to take the public broadcaster through the difficult analogue-to-digital transition period. The BBC has done well, perhaps too well in the eyes of some of its commercial rivals, but part of the government’s requirement was that the BBC become deliberately commercial. BBC Worldwide is one step down that road, and BBC Ventures is another.

BBC Ventures main customer is the BBC itself, but it has had some impressive business wins in the unaffiliated commercial world, notably with major contracts for ESPN, DirecTV, BSkyB and South Africa Broadcasting. Its latest project is the massive Media Village project currently readying for business at White City, next door to the BBC’s existing Television Centre. BBC Ventures has just won a 7 year play-out contract for Worldwide’s channels, and has an on-going commitment to play out the BBC’s domestic channels (including those of UKTV) totalling more than 30, all of which will be migrating to the new facility over the next six months or so. But they are looking to add all of Discovery Network’s European channels to that portfolio. Then, the BBC says it wants to ‘export’ this concept overseas.

Satmagazine.com talked exclusively to Roger Flynn, Ventures CEO, and asked him what news on the Discovery contract: “No news. We wait. Our task with all these potential clients is that they get convinced that the solution we are suggesting at the Broadcast Centre is the way for the industry to go forward. Having a server-based environment, is much more efficient, is more versatile and configurable and applies to everyone. What we say is that we can provide a

predictable price for new channels as a broadcaster grows, and you can get a lifetime cost for any growing project.”

Flynn’s concept is a completely new broadcasting model for the 21st Century, in terms of the operational set-up and then in the actual commercial deal. “If our target clients understand what we are suggesting then they will additionally benefit from the knock-on benefits to their own organisations. Depending on what someone would outsource to us or one of our rivals then, in a tape-based organisation there are all sorts of in-efficiencies that we all recognise. But shifting away from that model means you drive efficiencies up through the broadcaster itself, real efficiencies. If they buy into this concept then we are second to none. But if they want to stay with the old model then that’s not where we are at.”

Of course, the BBC is not alone. There are other rivals providing similar services, not least BT Broadcast Services, Kingston ‘inmedia’, NTL Broadcast and others. And some of them suggest that BBC Ventures prices will be at the high-end. “Not so,” says Flynn. “Saying we are expensive is an easy shot to have at the BBC. We have been accused of everything, of over-engineering, of providing the

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Rolls-Royce service, and that we have a Jacuzzi of cash to play with. None of these is true. The efficiency of the new Broadcast Centre is enormous, because of the huge scale itself helped by the BBC relationship. The economies of scale we can then pass on to new clients is itself beneficial. The technological advancements, which includes the Multi-Stream Area (MSA), which we developed with Omnibus, which allows a presenter to cover not just one channel but up to a half-dozen delivering an ‘as live’ continuity presentation to up to six channels. There’s another argument on price, and it is common sense: if we are not price competitive in the market then we’ll be passed over. I actually think we have changed the pricing structure, forcing prices down because we are so much more efficient in the services we deliver.”

However, there’s one area that the BBC’s Media Village project is not immediately targeting, and that’s single channel play-out. “I think it is



but our focus is on the larger player.”

Flynn says BBC Ventures has global ambitions. “We think we can absolutely replicate the UK model very easily overseas. The complete technical set-up, the business model and its advantages to broadcasters.... we think this can be adopted anywhere. You either need to build the physical building from scratch, or find one that would

BBC’s Media Village

house the plan in the right way given that we need to connect servers to play-out suites, and this could be replicated in the USA, the Far East and Europe, and we are in the market talking about opportunities now. We want to see this become a global play-out business. The commitment to expand exist, and the capital is ready to invest. We are just waiting for the right opportunity to come along. The 2006 BBC Charter renewal is irrelevant to our decision making, given that we are a strong, vibrant and growing business. Organic growth is one method, but acquisition is another possibility, starting to fill in some of the gaps internationally that would extend our depth and we are just beginning this process, and are open for business.” **SM**

BBC Ventures	2001-2002	2002-2003
External sales	£ 26.9 m	£ 40 m
Total Revenues	£ 338 m	£ 440 m
Profit	(£ 10.5m)	£ 14.5m

Notes: 2002-3 £23m returned to the BBC in price reductions”
 £6m net cash contribution to BBC
 Staff: “nearly 4000”
 Data:BBC Ventures Ltd

fair to say that our core offering will appeal to large customers with multiple channel demands, and where there’s a great deal of complexity. Potential clients with one or two channels, perhaps at the really low-cost end of the market, will be hard to attract. I have no doubt that some will come our way,

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



TECHNICAL TUTORIAL

Protect Valuable Satellite Bandwidth by Mitigating Interference

by John Thoma, Electro-Radiation Inc. (ERI)

Interference has been a fact of life in the satellite industry from its very beginning. Every operations person has seen it and most can recite cases where “dish farms” have had a big metal fence installed, or have had to move, or valuable transponder capacity is left dark to prevent interfering with adjacent channels. This is costly, wasteful, and no longer necessary!

Three common forms of interference have historically plagued the satellite industry: Terrestrial ; Cross-Polarization; and Adjacent Satellit.

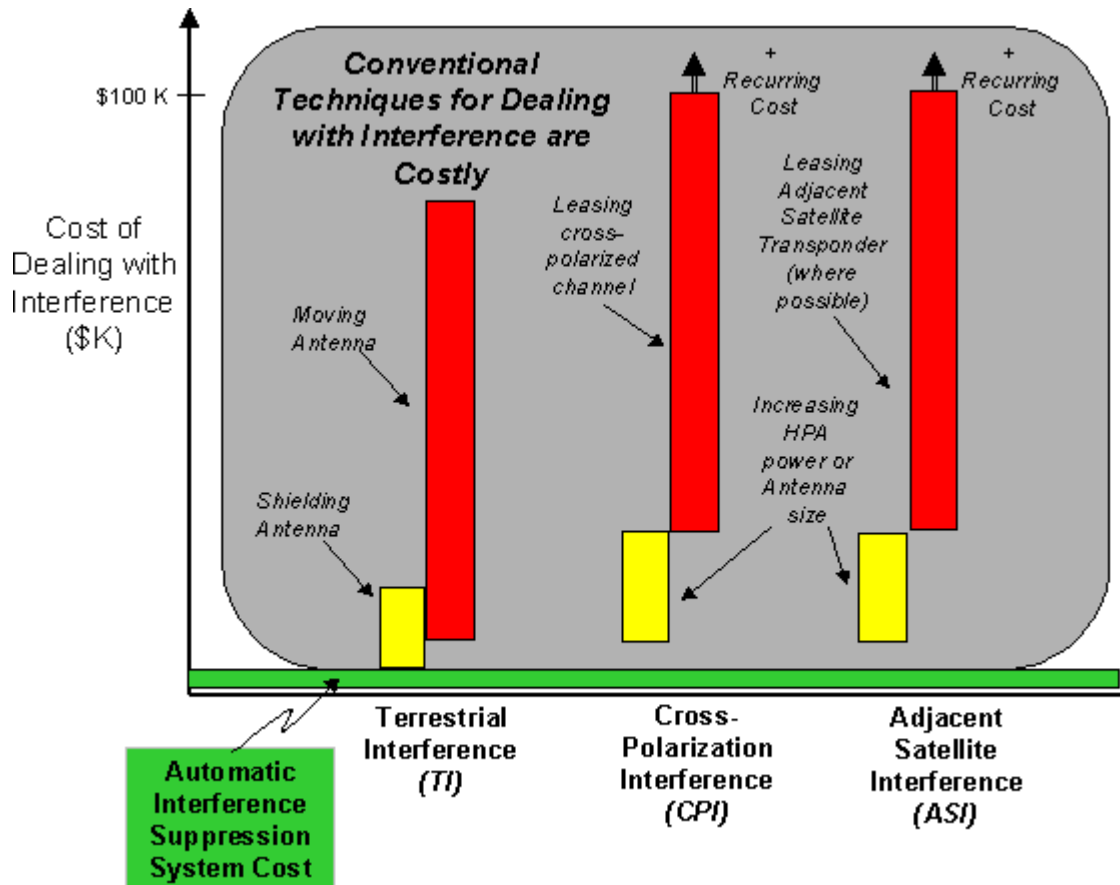
Increasing use of higher bandwidth signals, e.g. digital HDTV channels, will only worsen the situation.

Operators have developed ways of dealing with interference, which can be awkward and expensive. There is a need for an elegant, inexpensive way to eliminate it: a system to automatically cancel interference before it reaches the receiver. Benefits include significant cost savings, simplified operations, and reduced power levels. The figure below provides an overview of expected cost savings between conventional methods and available new technology.

A look at the three types of interference and current ways to deal with each shows the large advantages of an automatic suppression system.

Terrestrial Interference (TI) at C-Band

Since the 1950’s, common carrier telecommunication companies have used C-band (4 GHz) terrestrial microwave links to interconnect cities. Today, C-band uses include relaying broadcast television and radio signals to nationwide affiliates, and digital transmission of voice and data. Worldwide, it is still the most



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common means to link telecommunications between cities and adjacent countries.

In the early stages of satellite communication, C-band spectrum (5.925 - 6.425 GHz uplink and 3.7- 4.2 GHz downlink) was the most practical to use. C-band components were readily available, and there are strong advantages in path loss from atmospheric absorption and precipitation compared with higher frequencies. Underestimated at that time were the problems with Terrestrial Interference (TI). Although attempts have been made to separate terrestrial and satellite C-band frequencies, interference from wide bandwidth signals still plagues satellite reception. This greatly limits usable locations for C-band satellite earth stations in many metropolitan areas in the U.S. and around the world.

Because of the C-band TI problems experienced in the 1960's and 70's, satellite manufacturers began offering Ku-band (12 GHz) systems.

However, this system requires higher power, with greater link margins to overcome the additional losses in the higher frequency bands (e.g. rain absorption).

Current options for dealing with TI include: (1) *Moving the antenna* – this can cost from \$10,000 to \$100,000 + recurring expense (if a remote location is interconnected via fiber optics, and the fiber optic line or right-of-way is leased); (2) *Shielding the antenna* – e.g. constructing a metal fence around the dish. This provides no more than 6 dB of additional isolation, and can cost from \$5,000 - \$20,000; (3) Using *Notch filters* – the cost of a filter can be \$500 - \$1,500. This is normally applied to out-of band TI since the loss of usable in-band transponder bandwidth is of far greater cost to the system's performance.

A practical C-band TI interference suppression system will enable a return to this more cost-effective and reliable frequency band for satellite communications. It will allow C-band to be used dependably at convenient

metropolitan locations which are not even considered today because of Terrestrial Interference.

Cross Polarization Interference (CPI)

CPI exists on Ku- and C-band satellites and earth station sites because the industry has adopted a form of frequency reuse known as “orthogonal polarization reuse,” to maximize limited spectrum. Use of these dual polarized signals can effectively double operating bandwidth. Isolation between the two polarities is called “Cross-polarization isolation,” and is typically 25 to 30 db (but as low as 10-15db on inexpensive circular polarized antennas).

CPI levels are of little consequence if the feeds and satellite are properly aligned, and the orthogonally polarized signals are of similar power and amplitude. However, if one polarity is transmitting a high level signal (e.g. a TV/FM modulated 30 MHZ analog signal) and the other polarity a low-level

wide band digital signal, the CPI affecting the digital signal can be catastrophic. Normally, CPI values used in standard link design programs



2100 Series ISU Protects Against Common Interference

assume that orthogonal polarities are transmitting similar power levels and types of modulation. This generalized assumption can lead to serious underestimation of CPI problems.

Current options for dealing with CPI, assuming the earth station systems have already been optimized, include: (1) increasing transmit power levels (with possible impact to other channels), or dish size, or provide additional gain. This can cost in excess of \$10,000 to \$30,000, or (2) leasing both orthogonal polarities at the same frequency and bandwidth. In this extreme case, the transponder causing the interference can then be controlled or even left dark in all or part of its bandwidth. The forfeited revenue is typically \$30,000 to \$125,000 per month!

A practical CPI interference suppression system will greatly reduce the daily occurrences where CPI causes considerable signal degradation and/or outages. Also, on Ku band systems, reducing CPI levels provides greater rain fade margins.

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Adjacent Satellite Interference (ASI)

Adjacent Satellite Interference is another common form of interference which an interference suppression system can eliminate. ASI exists on Ku- and C-band satellites and earth stations because of another form of frequency reuse known as “spatial separation reuse.” Physically spacing geosynchronous satellites every 2 degrees can increase the useful bandwidth 60-fold compared with 3 degree spacing. Isolation between signals on adjacent satellites is difficult to estimate. It depends on many factors, including:

- Adjacent satellite spacing
- Adjacent satellite transponder loading
- Earth station uplink and downlink antenna discrimination and pointing errors
- “Effective Isotropic Radiated

Power”(EIRP) densities between primary and adjacent satellites

- Satellite orbital management
- Effects from multiple adjacent satellites
- Small antenna size, with resulting broad beamwidth and low isolation of adjacent signals.

Because so many operators of other satellites and earth stations control these factors, this is the most difficult type of interference to detect and manage.

ASI can be catastrophic if, e.g. an adjacent satellite is transmitting high-level TV/FM modulated analog signals while the primary satellite is sending low-level digital signals.

Options for dealing with ASI are typically the same as



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those for CPI: increasing antenna size and/or HPA power for additional gain (with possible impact to other channels), or leaving all or part of the interfering satellite's transponder dark at a tremendous loss of revenue.

Summary

There has been a major increase in all types of interference due to the high demand for both digital and analog distribution of voice, video and data via terrestrial and satellite links, as well as the use of VSAT terminals. As demand increases, interference will worsen, limiting use of precious available spectrum.

The satellite communications industry today critically needs an in-band, automatic interference suppression system that will significantly reduce terrestrial, cross-polarization, and adjacent satellite interference. One such solution exists in the *2100 Series Interference Suppression Unit (ISU)* from Electro-Radiation Inc., Fairfield, New Jersey.

In addition to resolving the satellite industry's immediate need to reduce this type of interference, an automatic interference suppression system will lead to major breakthroughs and provide numerous additional benefits, including: greater transponder loading, reduction in the size of transmitting and receiving antennas, a return to use of C-band satellite networks, greater data throughput and reduced system cost, a further tightening in satellite spacing (future), and simplified satellite earthstation operations.



Reference:

“Applications and Cost Benefit of an Interference Suppression System for the Satellite Industry” (7/8/03), by: John Moore, Videonlace S.A. and John Thoma, Electro-Radiation Inc. (ERI).



John Thoma is Director, Business Development for ERI's commercial applications affiliate: ERI Electronics, Fairfield, New Jersey. He has been responsible for introducing several dozen successful products and enhancements in broadband communications. ERI Electronics is a developer of automatic, adaptive interference cancellation systems for satellite receive earthstations and wireless communications. He can be reached at : JThoma@ERICorp.com

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FEATURES

Al-Jazeera: Adding to its Core Message

By Chris Forrester

It's not easy being a 24-news broadcaster. Somebody has a war, or there's an earthquake or some terrible disaster like 9/11 and everyone wants to view your output but you have to pull the very ads that are your bread and butter. If this is tough then imagine how challenging it is at Arab-language al-Jazeera. Loved in the Middle East by its news-hungry viewers and yet still subject to considerable criticism from Western governments. It has had its bureaux in Kabul, Afghanistan and Baghdad bombed by Allied planes and senior staffers killed. It also had its reporters thrown out of Baghdad by Saddam Hussein, and bureaux closed in Kuwait, Jordan and elsewhere because of comments made on air. In what most observers saw as a move too far it also had its NYSE credentials removed for a few weeks back in March. Such actions have only made al-Jazeera more popular than ever at home and even prompted some influential Americans to question their governments approach to free speech. Satmagazine EMEA Editor, Chris Forrester talks to al-Jazeera's newly appointed CEO, Adnan Sharif.

Doha, Qatar-based al-Jazeera, founded in 1996, evolved largely from the BBC's defunct Arab Television Service on Orbit and is considered the Arab world's only independent news voice. It claims up to 45 million viewers in the Middle East, and viewers around the world watched its live footage of Baghdad under fire. A study presented at the Broadcast Education Association Conference in Las Vegas last year found that "71% of Arab speakers surveyed feel that al-Jazeera is fair." A poll conducted today would almost certainly have even better satisfaction figures. The news station is funded by Sheikh Hamad bin Thamer al-Thani, a member of Qatar's ruling family.

When al-Jazeera launched it occupied a solus position in terms of Arabic-language news coverage. Since then copycat stations have emerged from Cairo (Nile News),

Abu Dhabi and MBC in Dubai. Good as they are, they haven't begun to dent al-Jazeera's impact. Adnan Sharif, Jazeera's GM, repeats the mantra from all TV executives saying competition is good. "From time to time our rivals will secure exclusive interviews, but overall we are very happy with the way we package and deliver the news, and the audience seems to respond well to our presentation. It is the same with the English-language news channels. Once there was only CNN, but now there's Sky and Fox although in my opinion Sky has the edge over CNN in this region."

Sharif stresses what he sees as the key differences: "Our competitors in the area do not have the same aim as us. When we launched al-Jazeera our goal was to not only supply a high-quality news channels but for it to be free of any restrictions. There were simply no boundary lines we would not cross, either



Adnan Sharif

political or regional. Our rivals have a different agenda. Yes, they want to compete with us, but the mission is not the same. Some seem to favour certain political or religious points-of-view. But from our audience's point of view, and the ratings and feed-back, we remain firmly in the lead and there is no way we will lose this position."

New Channels

Al-Jazeera received \$150m in initial funding, and is widely reported to be still suffering from an informal advertising 'black list' organised from within Saudi Arabia. "The companies which boycott us are forced to do so, we know this. But it is changing slowly. More commercials does not make us more

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successful with viewers, although it helps the business plan. Even though we are still suffering from the so-called ad-ban, other large international companies can no longer ignore our success and are coming forward,” says Sharif. The station reportedly took in \$66m in ad-revenue last year, double its take in 2000. But al-Jazeera has expansion plans afoot. “From the first day there has been an understanding of the sorts of services we could supply into satellite TV. We started, naturally enough with news, which was our strongest skill. Next will be the English-language version and then a Documentary channel. The Sports channel is also a high priority for us, as is a Kids service but we expect to see the English channel on air, hopefully, by January. We are currently looking at various methods of achieving this. It might be an English-language news cell in the middle of our newsroom, but we want all the flavour and style of al-Jazeera. Almost all of our staff, certainly 80%, are fully bilingual in English and Arabic, although we will also be hiring extra native English-speakers.”

Sharif says the station’s reputation – amongst Arabs and the ‘West’ is stronger than ever. “We have undoubtedly had an affect on world opinion. Most of our close neighbours thought we would be simply another Arabic news station that would have very little impact globally. Public opinion in the Middle East had only seen the BBC model, and it was where I and many of my colleagues learnt our craft. Nobody expected any Arabic channel to match or be a threat to the BBC, CNN, Fox or Sky. Viewers were more than surprised, they were



shocked at the effect we had. The magic word is credibility, and from our first minute on air we have tried to provide that credibility. We have done well, helped by the 100% margin of freedom on the station. There are no restrictions on us, and none of our Arabic rivals enjoy these freedoms despite what they might say.”

Asked whether al-Jazeera feels obligated to present an alternate view of current affairs, Sharif is emphatic: “We face the challenge of any news channel. But we try always to question what is happening in current affairs, and there’s always news in our region. Whether political news coming out of the West Bank, the consequences of the Iraqi war, Afghanistan, oil, growth in the region.... It is also part of the daily life of our viewers to talk about how events on the other side of the world affect us in the Arab world. There’s always news, and as one element fades something else usually replaces it.”

Sharif admits that al-Jazeera’s relationship with the ‘West’ has had its ups and downs, but separates governments from ‘ordinary’ viewers and sees the English-language channel as being important in finding new viewers, and opinions: “The channel itself, when it starts, will probably immediately give us a better idea of

US Deputy Secretary of Defense Paul Wolfowitz :

“What I’m complaining of are false reporting and very biased reporting that has the effect of inciting violence against our troops, and these governments should stop and realize that this is not a game; that they are endangering the lives of American troops....”
 “Fox News Sunday, July 27 2003

Ramzy Baroud, editor-in-chief of Palestine Chronicle

“Al-Jazeera possesses much more courage than CNN ever did. No wonder the U.S. administration is furious.....” August 5 2003

Adnan el-Sherif, GM Al-Jazeera

“We have recently had discussions with the Americans, and have presented our point of view, and what we are trying to do as news broadcasters in our region. We are doing the right thing as a news channel....”
 August 14 2003

how we are seen by non-Arab viewers. People are sometimes wary of us but respect what we are trying to do. If we are criticised, as on any channel, we examine our actions and respond accordingly. Sometimes we are provocative, I admit that, but sometimes a station has to be provocative and thought-provoking.” **SM**

EXECUTIVE SPOTLIGHT

Interview with Integral Systems CEO Steve Chamberlain

With global satellite sales down 28% since the of the 1999 export control law, SatMagazine managing editor Virgil Labrador had a frank discussion recently with Steve Chamberlain, Chairman and CEO for Integral Systems, Inc.. Integral Systems provides satellite command and control software and ground systems to commercial organizations and government agencies. With more than 20 years of satellite experience, Mr. Chamberlain also worked at OAO Corporation where he served as a manager at Offutt Air Force Base. Excerpts of the interview:

Q: Do you feel that the 1999 export control law passed by Congress and signed into law by President Bill Clinton has been harmful to the US satellite industry?

It's been uniformly harmful. I would say that the primary problem with the Act is that it is overly broad almost to the point where it is ridiculous. With a very broad brush they painted everything that was space-related as being subject to export control. It has the de facto effect, if not the de jure effect of making satellite or space-related exports to China illegal.

China has been a good customer of ours for a long time. We've had our software installed over there for about a decade now and I could

even ship routine upgrades. This act actually classifies our software as munitions – in other words ammunition. It's treated the same as if it were a bomb. It really is ridiculous. These satellites that we're flying, and that people want to sell to China, are commercial communications satellites and have no real Chinese military application. This was basically a political act from day one. There never was any real rationale, certainly not a national defense rationale for the bill.

The net effect of this is we're surrendering the Chinese-related business to the French so they are getting all of this automatically, which has a real impact.

Q: As Integral Systems prepares to announce a new version of its EPOCH command and control software at your first User's Conference on October 15th, how will the law impede your ability to export the product to China?

The State Department is not going to let us ship the software to our existing customers in China. All the State Department will officially say is that if we try to get an export license they can't decide if they will even process it. It's basically, "go away. You're not sending this over to China." There's no technical or defense reason. This is bureaucracy, politics and inertia.

The upshot is that our existing customers in China will be buying



Steve Chamberlain

their software, hardware and satellites from Alcatel or Astrium.

Q: Can you quantify how much of a loss the export control law will be to Integral Systems as you attempt to sell the new version of the EPOCH command and control software?

It's a loss in excess of \$10 million. That's the value of the system sales we would have done in mainland China and Hong Kong over the next couple of years. We had opportunities in both places. We had won the job based on our ability to get an export license, which we cannot get.

Q: Is there any way to construe that your EPOCH software is dual-use – software that can be used for benign commercial purposes and for military applications?

It's dual use only in the sense that they might be able to fly a satellite that the military owns. If we were selling it to the military then I think

EXECUTIVE SPOTLIGHT

people could claim that it's a military application. It can't hurt people or blow things up or anything like that. For a satellite which is essentially a direct broadcast television satellite I'm hard-pressed to justify calling this a dual-use technology.

The problem is that software is specifically spelled out as something that is presumptively banned. And you actually need a Presidential waiver to get your software sent over to China. In this instance, software is actually worse than the satellites, if you can imagine that.

Q: What changes in the export control law would you recommend?


I would recommend an explicit exemption for commercial communication satellites and all supporting technology, which is an area where the United States leads the world. That way you know it's not for international military purposes. Case in point: the Chinese want to buy the new version of our EPOCH software because they think our technology is better. But without an exemption, you're letting the French play catch-up and the Chinese are paying for it. It's a terrible situation for all US businesses.

Q: Anything else you would like to add?

Despite the challenges with the export control laws, Integral has been one of the few companies in the satellite industry enjoying consistent double-digit revenue growth percentages over the past several years. Our EPOCH software, including the latest version which

will be available in early 2004, continues to be a cornerstone in the industry. We recognize organizations are looking for ways to save money and gain efficiencies by consolidating their satellite assets and operations on a single

system and as a result, commercial off-the-shelf software is becoming their hands-down choice. **SM**



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New Times - New Strategies: ICT Rising from the Ashes

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New Times - New Strategies, the theme for PTC'04, emphasizes the opportunities that currently exist in the global marketplace for information and communication technologies (ICTs). While North America and Europe still struggle to reinvigorate their economies, several Asian countries have surged ahead in leadership positions with new technologies. PTC's annual conference offers a congenial venue to interact with major players in the Asia-Pacific region. The conference has long been the most important event that ties Asia to the Americas and the rest of the world.

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FINANCIAL SNAPSHOT

Tandberg Television: “High-def is Happening, Without a Doubt”

By Chris Forrester

Tandberg Television’s compression equipment is found in the transmission suites of most of the world’s major broadcasters. But the last couple of years have not been the easiest financially, either at Tandberg or its competitors where most potential buyers were hunkering down for the recession. We spoke to recently promoted president and CEO Eric Cooney at IBC about the current state of the industry. Cooney has managed to turn a hefty loss over the past year or so into a more favourable trading position, and asked him whether IBC was about to represent an upturn in business for Tandberg.



Tandberg CEO Eric Cooney

“HDTV is the talk of the show. High-def is happening without doubt, and while we all look to the progress being made in the US, we cannot ignore what’s happening in Asia-Pacific and even here in EMEA. We are starting to see significant investment in HD. The drivers all seem to be lining up: there’s critical mass in interesting high-def content, there’s critical mass in affordable receive devices so that the consumer can access services, and the business model is looking much stronger. There’s also a degree of momentum building up, and in my view we are over that ‘chicken and egg’ situation, certainly in the US and increasingly so around the world. Now, as a product supplier you’d expect me to say that everyone is buying high-definition encoders and professional receive

devices, but believe me we are seeing a real increase in demand on a global basis. Look how we have seen HD migrate from digital terrestrial in the US, now moving onto cable and satellite where it is rolling out fast. Satellite DTH, in particular, are rapidly adding channels as they compete directly with cable, and the consumer gets it. I believe DirecTV and Echostar, in general, are transmitting at bit rates in the 10-12 Mb/s rate. The goal has been to squeeze three broadcast channels into a single transponder, and they’re managing it comfortably.”

Cooney said Tandberg is seeing buyers investing in HD systems for contribution as well as distribution,

and telcos increasingly looking at how they can move HD content around. “So, it is happening right across the board, in transmission, cable, satellite and cable. It’s generating real revenues for us and we’re seeing ‘next generation’ HD encoders and receivers now coming down the line.”

Those ‘next generation’ products take the shape of Microsoft’s WM9 compression product and MPEG4/part 10 product. Cooney: “So far the orders for WM9 encoders are coming from telcos. The business model is straightforward for them. Here, for the first time they can buy an advanced coder, either WM9 or MPEG4/Part 10. It’s easy because they have no legacy issues. Existing

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broadcasters using MPEG2 compression, because of their huge investment, maybe right down to set-top boxes, are not going to be early adopters of advanced coding solutions. However, a telco in the broadband market, with no – or very few – boxes in the market, and which have the narrowest pipes in the market. These advanced codecs are the Nirvana solution for them, delivering high-quality video over a DSL line. Truth to tell we have telcos doing this in MPEG2, but advanced coding gives them the perfect answer. We took the decision to be totally agnostic over a year ago. We readied ourselves for WM9 and MPEG4/10, and took these tools to build into our solutions, adding our noise-reduction skills and coming to market. The decision to come to market earlier with WM9 was very much focussed on the telcos. Microsoft has done a great job in getting the chip-sets readied and set-top box builders involved, and we have moved on that. MPEG4/part 10 is probably about 12 months behind Microsoft in this regard, in terms of market progression. This year, in Q4, we'll be shipping our early WM9 systems to those telcos, and aggressively shipping through the first-half of 2004. But I have no doubt that that at next year's IBC I'll be saying much the same thing for MPEG4/10 with trial systems appearing at about this time of year and with commercial deployments in the first half of 2005."

Cooney said WM9 had something of an advantage in getting its product first to market, although in many cases it was pushing at an open door. "For the telcos there is a sense of urgency. For them the challenge is not just that they are

Tandberg Results 2000-2002			
(in Norwegian Kroner -millions)	2002	2001	2000
Revenue	969	1339	1187
Operating Profit	-74	29	-91
Operating Margin	-8%	2%	-8%
Pre-tax profit	-293	10	-1.8m
Net profit	-293	7	-74

trying to reduce their transmission cost. It is more important than that, because they are trying to hold onto their customers who are drifting away to cable because a telco cannot match that sort of triple-play service. So, to stay in business, they want an immediate solution. For these folks, then being early to market with a WM9 is a given. For others, MPEG4/10 is a solid compression technology, and existing MPEG users might well have the relative luxury of waiting those extra few months. There's a third group, the zealots if you like, who say they'll never have Microsoft in their broadcast centre. They'll wait for MPEG4. We take the ambassadorial position, giving clients whatever they want."

Asked whether these advanced compression technologies meant orders would dry up for MPEG2-based kit, and he said MPEG2 was far from dead. "Some 50-60% of my revenues are coming from the satellite segment, operators who are heavily committed to MPEG2. So, ask yourself is BSkyB going to junk all its boxes and switch in the next three years or so to MPEG4? I suspect not. We are going to be selling MPEG2 for several years yet. Will advanced coding like WM9 and MPEG4 take over completely in time? Absolutely, but looking 3 or 5 or 7 years out, I can see these

advanced codecs being the compression technology of choice. To look beyond that I think we need to take a step back, and look at the consumer. He is interested in valuable video content and is prepared to pay for that material. The current paradigm is that we live in the middle of this distribution chain, which by and large is send it once, watch it once. That model is changing, and the broadcasters might still be sending it out, but the consumer is beginning to say 'perhaps I'll store it', either for viewing later or to move it to another TV in the home. This is a very different model, and brings Digital Rights Management right into the home, with decisions being made at the receive site. What we are going to see are extensions of those business models.

"We are also looking, although down the road, at development of HD advanced coding, which might well be of interest for the Sky and Dish and DirecTV's of the world. Then we might create a true business case, a viable case, for those players to start considering a swap out of their legacy boxes. The benefit for them is not whether there will be 200 or more channels, but that they could supply 200 channels in HDTV, where today they just have standard TV." **SM**

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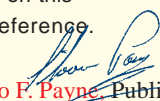
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MARKET INTELLIGENCE

Presented by the Global VSAT Forum



EAST AFRICA

By David Hartshorn
Secretary-General, GVF

The map of East African satellite markets – including most notably Kenya, Tanzania and Uganda - may soon be redrawn to portray a single market. That is to say, the national administrations of each East African country are seriously exploring the possibility of implementing a *regional* approach to satellite regulation that would facilitate the provision of cross-border services.

While the East African regulators have been mulling the opportunity for several months, focused attention was given to the prospect during an *Internet and VSAT Policy Workshop* held on 25-26 September in Mombasa, Kenya, where public- and private-sector delegates met to strengthen the dialogue on satellite regulatory reform in the region.

Organised jointly by the Commonwealth Telecommunications Organisation (CTO) and the Global VSAT Forum (GVF), the event was held for the East Africa Regulatory Postal and Telecommunications Organisation (EARPTO) and included nearly 40 delegates from regulatory agencies, ministries, telcos and private satellite service providers from East Africa, and including Ethiopia.

During open-forum discussions, a representative of the Communications Commission of Kenya reported that a special EARPTO Task Force has been created, involving representatives of the Kenyan, Tanzanian and



Ugandan regulators and which is currently identifying opportunities to harmonize telecom regulations in East Africa.

In particular, the Task Force is exploring an agreement involving the provision of “preferential licensing” for regional VSAT-based services, which is to say that VSAT – a system recognized to be uniquely well suited to provision of wide-area-network solutions - would potentially be given first priority among other types of telecom licenses. An initial report has already been drafted, and a Task Force follow-up meeting is to be held in October.

Broader interest in and support for the initiative were generated during the Mombasa workshop, where participants reached an informal agreement that harmonization of telecom regulation in East Africa can and should be implemented in order to facilitate expanded access to communications in the region, as

well as to stimulate trade. Further, it was informally agreed that provision of VSAT services – both domestic and international - could be encouraged by the harmonization effort.

The effort is strengthened by the fact that, until a few years ago, the three nations effectively shared the same telco and, in so doing, became accustomed to permitting cross-border communications in East Africa. In addition, it was confirmed during open-forum discussions at the workshop that each regulatory Administration – Kenya, Tanzania and Uganda – have already begun de-regulating their respective satellite service sectors. For example:

- The Tanzania Communications Commission delegate noted that his administration liberalized its telecom market in 1994, began licensing ISPs in 1998 and thereafter liberalized 4-5 VSAT services, including public data

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networks and international data. The administration is currently considering the possibility of liberalizing international voice services on 21/2/05.

- The Uganda Communications Commission representative noted that before 1993 there was an incumbent monopoly, but that in 1996 the first ISPs were licensed. Currently, basic telephony via satellite is provided exclusively by two licensees, but this exclusivity ends in 2005, and a review will be conducted soon of how/whether to deregulate VSAT services.
- And the Communications Commission of Kenya regulator noted three VSAT license categories in their country:
 - Private VSAT network operator, which is fully liberalised, with a two-year license period;
 - National commercial VSAT network operators, which are partially liberalised with a 15-year license period;
 - International commercial VSAT network operators, which is a monopoly of the incumbent up to June 2004.

While common ground was identified during the workshop, it also became clear that the administrations face challenges. The group found that they shared experiences in common relating to a number of telecom regulatory issues that relate to satellite communications. These included:

- **VoIP:** These services are in great demand, and in some cases they are being provided via satellite, even though the provider is not licensed to provide voice services. A discussion ensued regarding convergence and the growing difficulty in distinguishing between voice and data services, as IP-based services become increasingly prevalent.

- **Enforcement:** The difficulty of enforcing compliance with regulations that restrict service providers from providing VoIP and other services was noted by both the private- and public-sector delegates.

- **Technology Neutrality:** During the discussions, it became apparent that some regulators want to license telecoms based upon the “platform” (or technology), while others said their administration prefers to license telecoms based upon service categories.

- **GMPCS:** The regulators noted that greater education was needed regarding the implications of the GMPCS-MoU on VSAT-based systems and services.

Nonetheless, as the regulators continue to seek regulatory approaches that facilitate provision of regional satellite services, they are equipped with new resources with which to strengthen their efforts.

The first is a recent satellite regulatory survey conducted through ITU Question 17/1: *Satellite regulation in developing*

countries. The results are now available on the ITU website (www.itu.int [see ITU-D, Study Group 1, Document no. 079]) in the form of a Draft Report and show how other regional groups of regulators are coordinating their efforts in the pursuit of regional satellite regulatory harmonization.

Second, EARPTO – as well as its counterparts in other African sub-regions - can augment its efforts through a new programme that is gathering African administrations’ VSAT regulatory conditions and is posting the information publicly on the web at www.gvf.org. The program is funded by Canada’s International Development Research Centre in support of a project called Catalysing Access to ICT in Africa (CATIA). It will not only enhance satellite regulatory transparency in the region, but will also serve as an important next step toward harmonization of those regulatory conditions. So watch East Africa. It’s home to three regulatory agencies that share a single-minded purpose: A regional satellite market.

SM

The Global VSAT Forum is holding its Annual General Assembly and Satellite Industry Summit on October 10 in Geneva, Switzerland. For more information call Tel. +44-1727-884-627 Fax +44-1727-884-839 or E-mail: helen.jameson@gvf.org Web: www.gvf.org