

Industry Trends, News Analysis, Market Intelligence and Opportunities

Opportunities and Challenges in the Asia-Pacific Satellite Market

by Peter Galace Editor, Asia-Pacific

ith almost 3.8 billion people, the Asia-Pacific accounts for over 60 percent of the world population. China and India alone has about 40 percent of the world's total. Given the rising incomes and improving economic conditions, Asia continues to draw satellite service vendors and equipment manufacturers who are always on the lookout for new opportunities.

Asia's 47 countries also make the region so immensely diversified and heterogeneous as a market that companies doing business are faced with ever increasing cost of marketing and different regulatory regimes. Unfortunately for satellite service providers, the two biggest marketplaces, China and India, have remained recalcitrant in opening their markets.

According to many Asian satellite providers, the global economic propaganda. downturn in 2008 and 2009 did not have a serious impact on their businesses. They believe fundamental growth drivers of the industry remain in place, and predict that the Asian satellite industry will continue to have opportunities for growth. In the meantime, other interesting satellite events continue to spice up the 2009-2010 Asia satellite saga, but could very well blemish a very promising satellite marketplace.

China: Power of Numbers

With a population of 1.4 billion, an economy ranked as the third largest and fastest-growing in the world for the past 30 years and a per capita income of US\$6,567 in 2009, according to the IMF, China is Asia's biggest potential market for satellite services and

equipment. Strangely, satellite television remains technically illegal in China, thanks to a 1993 regulation that specifies only guesthouses, three-star hotels (and above) catering for foreign guests, and buildings exclusively expatriates, are allowed to use satellite dishes. For this reason, there is no China-branded satellite company and most TVs come with just a smattering of local regional Chinese channels and, of course, the channels that are provided by the China Central Television, the state television broad-



caster that uses a network of 19 channels to broadcast different soap operas, entertainment shows, and Chinese government propaganda.

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From the Editor

Increased M&A Activity

A key trend we are seeing in the last couple of months is the increased mergers and acquisition (M&A) activity among satellite companies. Among the key ones include Harris Corporation acquiring Caprock Communications for \$525 million; Comtech Telecommunications' acquisition of CPI Satcom for US \$472 million and many smaller acquisitions such Integral Systems

purchase of Sophia Wireless. We have also seen companies investing in other companies or increasing their ownership stake. Hughes Network Systems, for example, is providing an additional \$18 million to Avanti Communications to develop its ground infrastructure.

Increased M&A activity is a sure sign of an economic recovery that is now underway in most parts of the world, specifically in North America. Companies that have weathered the recession well are now looking to consolidate or expand their positions in the market.

Even the credit markets are opening up. Just before we went to press, mobile satellite operator Iridium announced that it has secured a \$1.8 Billion financing package to build its next-generation satellite system to be called Iridium NEXT. There might even be hope that satellite launch operator Sea Launch will be able to emerge from bankruptcy with Energia taking a majority stake in the company.

Prospects are certainly very good for the industry especially in the Asia-Pacific region, which will be the focus this month as we all head to CommunicAsia in Singapore. But as you can see from the cover story article in this issue written by our man on the ground in Asia, Peter Galace, there are still many challenges preventing the Asian market from reaching its full potential—regulatory issues among them and political instability always a possible threat.

We are not out of the woods yet, but the signs are very encouraging indeed.

Vigil Lahor m

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Satellite Executive Briefing

... The Asia – Pacific Satellite Market,... from page 1

A growing Chinese middle class and the rules nationwide. improving standards of living have graphic, violent or threat-

ening to state interests, though banned in domestic channels, is easily picked by satellite dishes.

Numbers vary, but analysts generally agree with the assessment that there are about 50 to 60 million illegal satellite TV dishes in China receiving programming that is nominally broadcast for the Hong Kong and Macau markets or the entirety of Asia.

alone, more than 10 million satellite dishes with the ability to receive overseas ing-Satellite) standards were shipped in China, and last year approximately 40

million gray-market dishes shipped for installation in urban areas.

sion (SARFT) lacks the power over related chipsets. local government branches to enforce

stimulated the demand for more high- Last year, Terry Lu, chairman of DVN (China tech equipment. This gave way to a Group, a Shanghai-based company en- Zhongxing-9, a joint venture of China black market for satellite equipment gaged in digital TV's development, pro-Satellite Communications Corp. and that allows access to the BBC, CNN motion, and application service, esti- Sino Satellite Communications Co., and of course MTV, to escalate. In most mates that China has a TV user base of Ltd., is considered the exclusive domescities, gray markets have popped up 400 million, including 150 million ur- tic satellite operator in China. Based in providing satellite cable services — ban cable TV users. He concludes that Beijing, China DBSAT has five in-orbit including cable boxes and regularly China has a potential digital TV user satellites and provides satellite bandupdated encryption cards — for anyone base of 250 million. This is confirmed width and integrated satellite communiwilling to pay around US\$300 a year to by other analysts who estimate that cations solutions for telcos, broadcastget channels like BBC World and CNN, there are more than 150 million Chinese ers, government agencies and enter-HBO and Discovery Channel and many cable TV subscribers as of mid 2010 prises. China DBSAT, considered the others. Thus, content deemed porno- with about half receiving cable from second largest operator in Asia, has

Established in December 2006, China Direct Broadcast Satellite Co., Ltd, DBSAT), which operates



Reports say that in 2008 Satellite TV equipment that can receive foreign broadcasts are still banned in China. However, it is estimated that there are between 40-50 million signals with the DVB-S illegal dishes in the country. Pictured above is In the meantime, China's (Digital Video Broadcast- an example of what Chinese households are do- Ministry of Industry and ing in order to conceal their illegal dishes. (photo courtesy of Observer blog)

were SARFT. In contrast, more than 350 to country has 786.50 million mobile ser-400 million households in China are vice subscribers, 17.89 million of which located in relatively underserved or were 3G network users, which further Earlier this year, the government re- unserved regions, according to SARFT. add to the demand for satellite capacity. leased new rules to combat the problem. The estimated 200 million households Companies that install satellite equip- with a TV set but no cable connection India's DTH Market ment are now required to buy permits currently receive TV signals via analog under a system that would track all terrestrial transmission or illegal satel- Since the start of commercial services dishes sold in the country. They ban lite set-top box and antenna. The launch in 2003, the Indian direct-to-home satellite receiving equipment on open of Zhongxing-9 (Chinasat-9) in 2008 (DTH) satellite television industry has markets. But the new rules may have has since served many unserved regions been growing at a rapid pace on the little effect because China's State Ad- in China and generated a huge market back of huge investments of existing ministration of Radio, Film and Televi- for satellite receiving systems and their and new players. According to research

government as the gatekeeper to the Chinese market. With the exception of AsiaSat and APT Satellite Holdings, both of Hong Kong, non-Chinese satellite operators are not allowed to offer services directly to Chinese end-users.

been assigned by the

This government policy has earned the ire of the United States and many other countries providing satellite services, citing China's commitment to the World Trade Organization.

Information Technology (MIIT) announced in April this year that the

firm RNCOS, the DTH market in India doubled in 2009-2010 to 18 million



The Intersputnik International Organization of Space Communications was established on November 15, 1971. Today, Intersputnik has 25 member states in practically all parts of the world from Latin America to Southeast Asia and from Europe to the south of the Arabian peninsula.

Intersputnik's core business is to make satellite capacity available to telecommunications operators, broadcasters and corporate customers under agreements with partner operators and to offer full-scale services via its subsidiary **Intersputnik Holding**, **Ltd.** for the purpose of installing and operating satellite telecommunications networks. Such full-scale services include access to internet backbones, uplink services, switching and digital platform services as well as supply and integration of ground equipment. The Russian satellite telecommunications operator **Isatel LLC**, which is part of the Intersputnik Holding, Ltd.



group, offers Russian and international telecommunications operators and corporate customers the required technological platform for the establishment of satellite telecommunications networks and provision of telecommunications services based on this platform.

Today, Intersputnik provides to its customers the resource of telecommunications satellites located in the geostationary orbit from 14W to 140E. One of our key partners is the **Russian Satellite Communications Company**, which owns a fleet of advanced Express-series satellites. Also, Intersputnik enjoys the status of the official distributor of Eutelsat's satellite resource and Measat's resource on the AFRICASAT-1 satellite. It markets and sells Intelsat's satellite capacity and offers service on the ABS-1 (LMI-1) satellite.

Intersputnik distinctive feature and main advantage is that it is an all-purpose supplier of satellite capacity and technological solutions. This is why Intersputnik's government and private customers in over 40 countries have a very wide choice of satellite resources in various systems operating on the global market and can receive all kinds of information from a single source.

Intersputnik's principal asset is its long-standing experience while the availability of its own orbit and spectrum resource guarantees its successful development. Using this resource, Intersputnik is implementing projects aimed at procuring and deploying spacecraft in its own orbital positions to provide service in the most rapidly developing regions with growing demand for satellite telecommunications services. For more information go to: www.intersputnik.com

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Cover Story

million by the end of the year.

Because of the excellent audio and as the next big revenue stream. video quality. DTH services are now poised to attract even larger number of R.K. Arnold, secretary of the Telecom by 2017. Uday K. Varma of the Minissubscribers. DTH subscribers are pro- Regulatory of India, said during an injected to grow at a compound annual dustry forum in March this year the 19 growth rate (CAGR) of around 28 per- million digital homes in India is only nounced once the stakeholders in the cent during the 2010–2012 period. With about 10 percent penetration of the mar- industry provide their views and various an estimated 125 million cable TV ket. By 2018 he says that digital penehomes nationwide expecting to switch tration should be about 42 percent. He to DTH, there remains a vast future predicts that major sporting events lined tors have been complaining of heavy growth potential.

being served by six private players — South Africa will be driving the in-Dish TV, Tata Sky, Sun Direct, Big TV, crease in the adoption of newer tech-Airtel Digital TV and Videocon D2H. nologies such as high definition (HD) India's present regulatory environment There is also Doordarshan, which pro- TV service in India. vides free DTH service. Dish TV, owned by the Zee Group, leads the pack "India currently has about 300,000 HD- tional Satellite (INSAT) system. INSAT of major service providers holding an ready households and by year-end this has become the largest domestic comestimated 35 to 40 percent share of the will go up to three million," Arnold munication satellite system in the Asiamarket and is joined by Monster.com, said. Currently, Discovery HD is the Pacific region with 11 satellites in ser-Shaadi.com and Yatra.com to increase only channel available on HD service in vice --- INSAT-2E, INSAT-3A, INSAT its value added services (VAS) and in- the country, but Doordarshan plans to -3B, INSAT-3C, INSAT-3E, KALtroduce other convergent services like launch a channel on the same platform PANA-1, GSAT-2, EDUSAT, INSAT-

subscribers and expected to reach 19 Internet. While revenues from VAS and for the Commonwealth Games. interactive services are gaining prominence, DTH for car TVs is being looked India is also charting out a plan to im-

up during the year, such as the Commonwealth Games 2010 in October and say are hindering the digitization proc-Currently, the Indian DTH market is the soccer World Cup 2010 this June in ess as adoption of new technology re-

plement digitization with Doordarshan, moving towards full digitization try of Information & Broadcasting of India says the final plan would be anissues such as tax, and analog-digital co -existence are sorted. For years, operataxes and regulatory caps, which they quires tremendous investment.

essentially requires providers of Indian domestic services to use the Indian Na-

Gilat Satellite Networks Boundless Experience in Satellite Communications



Gilat Satellite Networks is a leading provider of satellite communications products, services and solutions. For over 20 years, Gilat has been at the forefront of VSAT technology and continues to be an innovator and developer of new satellite technologies. Gilat's solutions serve the communications needs of carriers, enterprises, governments, service providers and consumers around the globe.

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4A, INSAT-4B and Chandrayan-1. Together, the system provides 211 transponders in C, Extended C and Ku bands for a variety of communication services. However, many industry players are complaining that the restrictive satellite policy is artificially suppressing demand, which in turn leads directly to a reduction in growth, profits and therefore lower tax revenues.

Industry Players Beg: Open Up

During a Cable & Satellite Broadcasting Association of Asia (CASBAA) industry conference last year, industry players asked the government to open up the market to satisfy pent-up market demand for more satellite capacity over India.

"Despite the extraordinary success of ISRO over the past couple of years, the digital telecoms and DTH markets remain seriously under-provisioned in terms of transponders," said Simon Twiston Davies, chief executive officer, Several satellite fleet operators have A few months later, on September CASBAA. "Commercial satellite services such as VSAT systems delivering because of India's exploding DTH mar- coup amid allegations of corruption, national communications backbones ket, whose growth has outstripped IN- electoral hanky-panky and a worsening and DTH services for home subscribers SAT fleet capacity. But the foreign Muslim insurgency in Thailand's southjust can't source enough satellite capac- players had to go through the Indian ern province. In the aftermath of the ity from the domestic market. Addi- Space Research Organisation (ISRO), coup and a court hearing on corruption tional market deregulation supporting which runs the INSAT system. How- charges, Thailand's Supreme Court on international partnerships is essential."

(USTR) in April this year when it ISRO-provided satellite capacity is lashed out India, together with China, available. for not meeting their international commitments to open their domestic satel- Political Woes Aggravate Problem lite services markets and maintain coherent regulatory regimes.

The USTR's 2010 report said U.S. has ture but political. On January 26, 2006, The court ruled that Thaksin illegally pressed Indian authorities in the past to Singapore's state-run investment arm, hid his ownership of shares in Shin open their market to non-Indian satellite Temasek Holdings, bought Thailand's Corp. during his two terms as prime fleet operators to no avail. Satellite as- Shin Corp. telecommunications con- minister, despite saying that he had sociations in the U.S. and Europe glomerate for 73 billion baht (US\$2.2 transferred them to his family. The shared the same concern although satel- billion). Shin Satellite, later renamed court said Thaksin had also issued a lite fleet operators have elected not to Thaicom Public Co. Ltd, was a part of cabinet resolution in favor of the mobile raise their voices on India's restricted Shin Corp. and was purchased by Te- telephone arm of his empire, set satelmarket, in part out of concern that pro- masek from company founder and then lite policies that benefited Shin Corp., tests would backfire.



Thai government soldiers protecting Thaicom's satellite ground control station in Nonthaburi from an attack by antigovernment protesters. The political turmoil in Thailand exposes the vulnerability of satellite assets during crisis. (photo courtesy of Thai Photo Blogs)

been able to enter India in recent years 2006. Thaksin was ousted in a military ever, this scheme only adds cost to the February 26 this year ordered the seiservice and on some occasion, ISRO zure of US\$1.4 billion in contested as-The same sentiment was raised by the reserved the right to terminate the for- sets belonging to the family of the foroffice of the U.S. Trade Representative eign operator's contract once domestic mer prime minister, ruling that Thaksin

Thaicom's bigger problem may not based Temasek. even be technical or commercial in na-Thai premier Thaksin Shinawatra.

had abused his power for personal gain from the sale of Shin Corp. The government had applied for the seizure of the proceeds from the sale of shares owned by Thaksin and his family to Singapore-

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Bigger Payoffs for First Movers in Australia

by Chris Frith



with Rural Access Network initiatives in the

region would do well to consider the experience of providers under the Australian broadband subsidy scheme. Even though the challenges faced in developing countries is likely to be far greater, our expectation is that this first mover advantage will be repeated and with greater returns than in Australia. We therefore encourage providers to engage in these initiatives sooner rather than later, whilst putting in place strategies to mitigate downside risks.

Rural Access Networks Are Not New

for all aspects of service delivery.

Today we not only see the model being The subsidy scheme also represented a providers will have the economies of extended to Internet delivery but also, boon for broadband satellite providers. scale to absorb these changes. the risk sharing amongst stakeholders is Even with the relatively high hardware would therefore expect considerable changing. Unlike the traditional model, costs at the time, the margins attracted a consolidation in the ABG provider marservice providers and even community great range of providers. members are being encouraged/ re- many of these new entrants quickly fell quired to share in more of the risk. by the wayside, a perception appeared Some models for example, even have a within government that the risk/reward member of the local community using pendulum was too much in the providmicro-finance to take a stake in his/her ers' favour. As a result the Threshold service delivery kiosk.

wards are adjusted accordingly. In this A\$2,500 (US\$2,125). regard, governments still hold major sway in the shape and ultimately suc- Despite the success of the program concess of these initiatives to bridge the necting over 100,000 households, ser-

digital divide between their urban and vice providers have been caught in the rural constituents. In the case of Aus- cross fire of a debate over what constitralia, this is definitely the case and so tutes an acceptable satellite broadband roviders we will use the Australian experience to service and a perception that they are hesitating illustrate how changes to the risk/ too focussed on just connecting new a b o u t reward balance can have a dramatic customers, as opposed to servicing exgetting involved impact on service provider fortunes.

Australian Broadband Subsidy

The Australian broadband subsidy model is based on the government providing funding to accredited service providers in the form of a perconnection, incentive payment. When these schemes first began around 5 years ago, the government's priority was connections. Rural and remote Does it really matter whether the govhouseholds had long complained about ernment is putting more pressure on the poor internet access via dial-up and service providers? satellite was seen as a major part of the down to risk/reward. Some would say solution. The Threshold Service - the the government had greater ability to benchmark service which all providers affect changes when the viability of must include in the tariff offering - was ABG service delivery was stronger. set at 256Kbps/64Kbps (outbound to Given that one of the major criticisms Thin route telephony networks connect- the customer/inbound from the cus- of the ABG has been in relation to sering isolated villages have been deliv- tomer), with 500MB of data and the vice quality, doubling the Threshold ered via satellite for some time. Mostly incentive payment was A\$3,000 speed without any bandwidth cost refunded by either the local PTT, or via (US\$2,550). For customers, this has lief, is likely to increase rather than some form of Universal Service fund- meant that they could now get a decrease the motivation for service proing, their use is based on a pay-phone "broadband" satellite connection for \$0 viders to utilise excessive oversubscripstructure with the provider responsible upfront - just their ongoing subscrip- tion levels. tions to pay.

service was increased to 512Kbps/128Kbps with 3GB of data Risk sharing is fine, providing the re- and the incentive payment dropped to

isting ones.

This has resulted in the Threshold service now being doubled to 1024Kbps/256 Kbps, with 6 GB data (3GB during peak hours). Unfortunately (for providers), the subsidy remains the same at \$2,500 and they will now also have to provide a 3 year warranty on hardware.

Again it comes

The end result is that only the larger We Although ket in the next 12 months.

Early Mover Advantage

The Australian experience demonstrates that best returns are most likely at the early stages of these initiatives. At the start, a combination of uncertainty regarding service delivery - i.e. establishment activities, degree of difficulty in serving customers, transaction costs, potential demand, etc – and the focus on take-up as the measure of success

Cover Story

mean that incentives are likely to be higher at the start. The value of these incentives will likely decline overtime as familiarity grows: either through government's deciding they are being too generous; or competition amongst providers driving some to offer their services at a discount, which are then applied across the market.

The message for providers looking to Rural Access Networks as part of a market expansion strategy, is don't wait too long. We are just seeing tentative steps by providers entering this market with local governments, NGOs and other stakeholders. To date there are few projects of any scale, but that doesn't mean they aren't coming. Success will come from getting in on the ground floor to not only take advantage of any additional benefits working with the government may deliver (e.g. favoured licensing arrangements, selling to government agencies) but also, to develop the scale to be able to cope as the conditions evolve over time, as it will. Just ask an ABG provider!



Chris Frith is the principal consultant and founder of **AUSPresence**, a professional services firm providing thought leadership and tactical support for customers in the

satellite industry, looking to lift their performance. AUSPresence provides services to a wide range of service providers, some of whom are engaged in providing ABG services. Chris held senior positions at Optus Satellite Services before establishing AUSPresence in 2005. At AUSPresence. Chris has been successful in assisting its customers analyse their past successes, pick winning markets for future growth and put systems in place to achieve their business objectives. Chris holds a Computer Engineering Degree and a Master of Business Administration from the Australian Graduate School of Management. He can be reached at chris.frith@auspresence.com.au

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change for it doing deals with his firm. that will threaten the avowed unity and It ruled that Thaksin government's ille- cooperation among ASEAN gal grant of a preferential eight-year tax (Association of Southeast Asian Naholiday on its foreign operations cost tion) member-countries, to which both the state over 16 billion baht (US\$492 Singapore and Thailand are members. million) in lost revenues.

The Supreme Court ruling, plus a Criminal Court order for an arrest war- Excluding government regulatory probrant on terrorism charge against Thak- lems, Asian satellite industry growth sin on May 25 this year, further peril will be driven in the long-term by two Temasek-owned company's finances key factors: the technological advanand irritate the future of the Thaicom's tages that satellites hold over terrestrial state concession agreement. In fact in systems as a platform for the broadcast April this year, at the height of the pro- industry and increased competition Thaksin demonstrations in Bangkok, across multiple platforms within Asia's Thailand's deputy prime minister in television, internet and mobile telecomcharge of security matter, Suthep Tuek- munications markets. suban, instructed the Ministry of Information and Communication Technol- Most operators agree that in the short to ogy (MICT) to consult with the Juridi- medium-term, as in the rest of the cal Council on the possibility of revok- world, there is clear growth potential in ing Thaicom's license. The government HDTV technology, Internet Protocol accused Thaicom of failing to suspend Television (IPTV), video-to-mobile and the broadcasting of People Channel DTH services, as well as in mobile and Television (PTV), which for a time was Internet connectivity in rural and reused by the red shirted anti-government mote areas. protesters to incite unrest against the government.

ment's order saying the company was broadband wireless access represents not responsible for uplinking PTV's one of the largest opportunities for signal and instead blamed its foreign transponder capacity lease, with an customers, which deal directly with expected growth of 4-6 percent CAGR PTV. But the Bangkok government through 2020. realizes it is treading on treacherous

waters. To suddenly pull the plug on Singapore-controlled Thaicom would and gave a loan to Myanmar in ex- definitely engender a diplomatic row

Prospects

Asia's economic growth will continue to increase the requirements for wide-Thaicom denied defying the govern- band connectivity. In Asia alone, ~



Peter I. Galace is editor for Asia Pacific of Satellite Markets and Research. He writes extensively on telecommunications and satellite developments in Asia for numerous publications and research firms. He can be reached at peter@satellitemarkets.com

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Milestones

Newtec Celebrates 25 Years of Innovation



not just a slogan for

🦰 haping the future of sat- early as 1996, Newtec began successfully selling ellite communications" is DVB satellite communications equipment.

Newtec. It has been the com- Newtec also broadened its portfolio through acquisipany's daily practice for over a tions. Teamtec, a Belgian production facility for the quarter of a century. Newtec integration of satcom equipment, was acquired in wants to be a learning organiza- 2002. Tellitec, a Berlin-based software company spetion in every possible way, com- cializing in IP over satellite solutions was added to the bining a pioneering spirit with Newtec Group in 2004. The most recent acquisition TurboConcept, a leading French

technical excellence and marketplace savvy. Newtec was in 2007 of aims to remain at the top of its game, helping custom- provider of intellectual property cores for turbo and

ers in the satellite communication industry to realize their business objectives by providing them with new business capabilities, by expanding their market reach, and by enabling them to reduce their operational expenses.

Since its inception in 1985, Newtec has established a strong track record and reputation. It now has nine commercial offices, research and development centres and its own production facility, all spread over five continents. Filling these offices and facilities are close to 300 employees, working with three product lines and over 50 different products.

Newtec was founded by two engineers with a vision: Dirk Breynaert and Jean-Marie Maes. Their vision has produced a pioneering satcom company working at the top of its field globally. In its first ten years, Newtec worked exclusively on R&D and projects for the European Space Agency (ESA). Today, the company's relationship with ESA remains strong and R&D is still very much alive at Newtec. With its am-

bitious R&D reinvestment policy, Newtec is recog- and mobile TV are expected to see further growth as RCS and iSatTV Cenelec pr EN50478).

In 1994, as the European satellite market was deregulated. Newtec realized that there was an opportunity to leverage its technological know-how and ate and dedicated team serves the company's cusstarted its own product development strategy.



From left: Jean-Marie Maes, Newtec co-founder; Serge Van Herck, **CEO; Dirk Breynaert, co-founder** and CTO in front of **Newtec's** headquarters Brussels, near Belgium.

LDPC codes, important building blocks for the DVB-S2 standard.

Newtec plays a crucial role in the satellite communications industry around the globe. Serge Van Herck, CEO Newtec, enthuses: "There are more than 2 billion people watching TV images every day thanks to Newtec products and we are proud to be the European market leader for Internet Broadband over Satellite."

The next few years are set to be exciting for Newtec as the number of TV channels, satellite broadband consumers and the IP traffic worldwide are expected to see continued growth. Broadcasters look forward to drive increasing end-to end efficiency across their infrastructure.

"As the deadline for switchover from analogue approaches, digital terrestrial TV

nized as a forerunner in several innovative satellite well. Also, the increasing need of countries to close communication technologies, which have been pub- the digital divide, combined with the availability of Kalished as industry standards (DVB, DVB-S2, DVB band satellites, will see further potential for double digit growth for the coming years," Van Herck continued

> From its offices around the world, Newtec's passion-As tomers, helping them to shape the future of satellite communications.

Global Satellite Industry Grew 11.7% in 2009-SIA

Washington, D.C., June 8, 2010 – The Satellite Industry Association (SIA) released its 2010 State of the Satellite Industry Report, showing an 11 percent growth from 2008 to 2009 in overall world satellite industry revenues. Global revenues for the satellite industry totaled \$160.9 billion in 2009, resulting in an average an annual industry growth rate of 11.7 percent from 2004 through 2009.

"This report reinforces the satellite industry's resilience, despite the global economic downturn. Each of the four key satellite industry sectors posted strong growth in 2009,"noted • Patricia Cooper, President of SIA. "SIA is very encouraged by these results, but will continue to monitor the long term effect that changes in the global economic situation, trade barriers and government procurement may have on U.S. firms. SIA and its members remain committed to working with policymakers, customers and suppliers in the commer-

"...This report reinforces the satellite industry's resilience, despite the global economic downturn. Each of the four key satellite industry sectors posted strong growth in 2009..."

- Satellite Manufacturing revenues worldwide showed robust growth of 29 percent, from \$10.5 billion in 2008 to \$13.5 billion in 2009, as larger and higher-value new spacecraft were launched.
- Satellite Launch Industry revenues increased by 18 per-

cial and government sectors to ensure the future of a healthy satellite industry and the critical services it supplies."

SIA commissioned the Futron Corporation to conduct its thirteenth annual State of the Satellite Industry Report. Futron polled over 70 satellite companies, both SIA members and nonmembers, to determine aggregate revenues in each of the satellite industry's sectors: satellite services, satellite manufacturing,



cent in 2009, with United States launch revenues growing from \$1.1 billion to \$1.9 billion.

• Satellite Ground Equipment revenues grew by 8 percent, to \$49.9 billion, led by consumeroriented products such as satellite TV and broadband, mobile satellite, and GPS devices.

• U.S. Satellite Industry Employment, as of 3Q 2009, was down 5.5 per-

launch industry, and ground equipment.

In 2009, satellite manufacturing and launch services were the two fastest-growing satellite industry segments worldwide, followed by the satellite services sector, which continues to demonstrate increased growth as the main demand driver. The report shows that:

• Satellite Services revenues maintained a steady growth of 11 percent globally, with satellite television leading this sector, amounting to a total of \$71.8 billion in 2009.

cent from 4Q 2008, with losses seen in all four sectors. Fourth quarter results for 2009 will be released in August 2010.

Peggy Slye, Futron's Chief Operating Officer, noted that the SIA State of the Satellite Industry Report is a valuable tool for the industry as it "provides a critical benchmark for industry executives, financial analysts, and corporate strategic planners."

European IPTV Subs to Double by 2015

crease by 92 per cent within the next five years from platforms, including free-to-air DTT services. 15.4 million in 2009 to 29.6 million in 2015, boosted by widespread deployment of next-generation access networks, Analysys Mason forecasts strong growth for pay-DTT seraccording to a report from research firm Analysys Mason.

The report adds that having taken the best part of the previous decade to accumulate a 12 per cent share of the region's pay-TV market, IPTV operators are now set to gain a 19 per cent share by 2015, making IPTV the fastest-growing pay-TV platform in Europe.

Subscriptions to satellite TV services are expected to grow in the region, boosted primarily by recent service

launches in Central and Eastern Europe, however Analysys cent during the forecast period. Mason predicts that their share of pay-TV subscriptions will decline by 1 percentage point to 29 per cent in 2015.

share of subscribers to decrease from 51 per cent to 41 per consumption of on-demand content.

he number of IPTV subscribers in Europe is set to in- cent by 2015, as analogue subscribers defect to rival digital

vices over the next five years. An 84 per cent increase in the number of pay-DTT subscriptions in Europe to 17.2 million

by 2015 is predicted to lift the platform's share of pay-TV subscriptions from 7 per cent in 2009 to 11 per cent in 2015.

Looking at the overall pay-TV market, the report predicts that the number of pay-TV households in Europe (excluding Russia and CIS markets) will increase from 125.5 million at the end of 2009 to 145 million by the end of 2015, representing a "modest" compound annual growth rate (CAGR) of 2.1 per cent. As a result, household pay-TV penetration will rise from 58.5 per cent to 66 per

The research firm expects spending on pay-TV services to grow at a CAGR of 4.9 per cent during the next five years, Cable platforms will continue to have the largest number of from E27.2 billion in 2009 to E38 billion in 2015, driven by subscriptions overall, but the research firm expects their the ongoing migration to digital TV services and the rising

3D, Connected TV Sales Continue to Grow

isplaySearch has increased its worldwide TV market forecast for 2010 by more than 10 million units to 228 million units, given the strong result in 2009 and the positive influence of new technology introductions such as 3D and LED.

"The rapid transition to flat panel technologies in emerging markets and the robust level of growth even in mature markets has led us to improve our outlook for 2010," observed Hisakazu Torii, Vice President of TV Market Research for DisplaySearch.

"This is especially true for LCD TVs, which are now projected to exceed 180 million units in 2010, a 24 per cent in- Meanwhile, DisplaySearch is forecasting the 3D market to crease over 2009. This is helped by the introduction of new technologies like 3D, as well as the expansion of newer features like LED backlights and Internet connectivity." The rapid growth, the market research firm predicts that only 27 LCD TV shipment outlook is driven in part by the rapid ex- per cent of 40-inch or larger sets shipped in 2013 will be 3Dpansion of LED backlit models. In 2009, an estimated 3.6 capable, Furthermore, Blu-ray Disc and HD broadcast have million LED-backlit LCD TVs shipped worldwide, with low penetration in Western Europe, and as a result there remore than half of that coming in Q4'09, according to Dis- mains a content gap that needs to be filled before 3D can playSearch.



grow from 2.5 million 3D-capable TVs shipped in 2010 to 27 million sets in 2013. Yet while 3D is forecast to show flourish, according to analysts. ×,



Products and Services MarketPlace

A guide to key products and services showcased at the CommunicAsia exhibition in Singapore from June 15-18.

AAE Systems, Inc. manufactures satellite equipment and engineers customized turnkey solutions. With over 25 years of experience, the company has a world-renowned reputation for developing intelligent satellite-AAO based technologies. As a satellite communications industry leader, it provides innovative and cost-effective voice, video and data solutions that meet and exceed the operational needs of its customers.



At CommunicAsia, AAE is launching its new Emergency Communications Trailer (ECT). The ECT is ideal for military and defense organizations. The ECT is designed for rapid deployment, and provides communications to disaster stricken areas anywhere in the world in a matter of minutes. A self-contained communications platform equipped with fully integrated and interoperable communications systems including satellite, WiMax, and auxiliary two-way radio, the ECT extends voice, video, and data communications to the deployed area in an Everything-over-IP environment. With an on-board generator, extended run fuel tank, and environmental controlled electronics enclosure, the ECT supports up to 48 hours of continuous operations without refueling.

It is best suited for disaster and emergency response; command and control communications; forward operating extension services; gateway extension services; and voice, video, data, and radio interoperability in an EoIP environment.

www.aaesys.com

at CommunicAsia 2010 Visit AAE in Hall 6 at the US Pavillion Stand # 6H1-07

AvL Technologies delivers superior mobile satellite communication antenna systems and posi-AVLTECHNOLOGIES designs for ultimate performance tioners. AvL's visionary approach to mobile satellite antennas and positioners has established the company as a global leader in innovation and reliability. The product line features a full range of lightweight, rapidly deployable, self-contained antenna and positioner systems. AvL antenna systems enable efficient and cost-effective voice, video, and data connectivity to be established quickly without the need for specialized training

AvL is also one of the largest producers of high-performance, Ka-band ready, solid carbon-fiber CF antennas. AvL's growing CF product line includes 1m, 1.2m, 1.6m, 2.0m and 2.4m apertures. Each of these apertures can be configured for case-based or vehicle-mount systems for diverse applications.

www.avltech.com

at CommunicAsia 2010 Visit AvL in Hall 6 at Stand # 6H1-14



CET Teleport GmbH is one of the biggest European teleports offering a wide range of media broadcasting and corporate VSAT services. It has extensive disaster recovery facilities, a 24/7 Help Desk and with over 50 antennas on site allows access to over 200 geostationary satellites located from 58°W to 76.5°E.

Recently CET has presented their new DTH platform on EUROBIRD[™] 9A satellite located on 9°E. This new video neighborhood is adjacent to the premium HOT BIRD[™] position at 13°East giving virtually the same coverage over Europe. North Africa and the Middle East, but is much more attractively priced.

CET also offers competitive pricing for services within the T11N (37.5°W) satellite footprint. The iDirect Evolution® platform delivers significant gains in bandwidth efficiency and data throughput and uses the integrated features of iDirect's Intelligent Platform[™] to support enterprise and governat CommunicAsia 2010 ment applications.

www.cetteleport.com

Visit CET Teleport in Hall 6 at Stand # 6D1-01



Gazprom Space Systems (formerly Gascom) -is a private commercial, nongovernmental satellite operator based in Russia. The main shareholder is Gazprom, one of the largest energy companies in the world. Gazprom Space Systems' orbital fleet consists of three mid-size satellites under the Yamal brand.Gazprom Space Systems' SPACE SYSTEMS ground infrastructure consists of four teleports in the city of Moscow and in the surrounding Moscow region, which are connected to the main telecom backbones by means

of fiber-optic lines. The company also has a wide network of earth stations across Russia. In Russia Gazprom Space Systems is not only a satellite operator but also a service provider and system integrator. Within Russia, along with satellite capacity, it provides satellite services including satellite links, video distribution, Internet access and network development and management.

Gazprom Space Systems has more than 200 clients in Russia and abroad. One fourth of Gazprom Space Systems' revenues come from the international markets. By 2015 the company intends to increase its satellite capacity by 400 percent

from current levels and to build a new teleport in the Moscow region. Currently, the new Yamal-300K and Yamal-401&402 satellites are under construction. www.gazprom-spacesystems.ru

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Gilat Satellite Networks Ltd. is a leading provider of products and services for satellite-based broadband communications networks. Gilat has shipped over 750,000 VSATs to more than 85 countries. Gilat markets a full line of high-performance VSATs under the SkyEdgeTM and SkyEdge II Product Family..

Gilat offers a full range of satellite communications products and solutions:

- SkyEdge and SkyEdge II Advanced high performance cost-effective and flexible VSAT systems supporting diverse needs.
- NetEdge Dedicated solution for multi star networks, specifically designed to meet the needs of corporations and cellular backhaul applications.
- Value-added solutions for specific markets and industries, integrating SkyEdge and SkyEdge II with other technologies and applications.
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www.gilatnetworks.com

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Globecomm Systems Inc. provides end-to-end value-added satellitebased -communication products, services and solutions by leveraging its core satellite ground segment systems and network capabilities, with its

satellite communication services capabilities. The products and services Globecomm offers include pre-engineered systems, systems design and integration services, managed network services and life cycle support services. Globecomm's customers include communications service providers, commercial enterprises, broadcast and other media and content providers and government and government-related entities.

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Newtec is a recognized global market leader in the satellite communication industry, offering highly innovative products and solutions for the ground segment of television, telephony and data networks. TV broadcasters, Telecom Service Providers, Integrators and Satellite Operators from all over the world have been relying on the unequalled performance, flexibility and reliability of our

shaping the future OF SATELLITE COMMUNICATIONS has equipment, systems and software:

+ Azimuth is a family of professional equipment for the TELCO and broadcast market including DVB-S2 modulators and demodulators, frequency converters, redundancy switches and more.

+ Elevation is a family of professional IP modems, receivers and appliances for applications such as IP trunking.

+ Horizon is a range of integrated transceivers used in terrestrial or mobile television networks.

+ Sat3Play is a satellite broadband access system providing 2-way connectivity from cost effective, easy-to-use and easy-to-install interactive terminals.

★ Menos – Multimedia Exchange Network Over Satellite is a unique satellite system for the exchange of television and radio material in a broadcast network.

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video, voice and high speed data connectivity in any terrain, off or on road, at any speed. StarCar lightweight, compact, low profile design makes it easy and quickly to install on top any vehicle, keeping aerodynamic and mobility of vehicle in check. StarCar features ultra fast acquisition anywhere on the globe, seamless tracking and



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and maintain, require zero warm up time, and in a redundant configuration, draw less power. For operators, this translates into greater reliability and reduced energy and maintenance costs over the lifecycle of the system, www.wavestream.com

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Gazprom Space Systems (formerly Gascom) – is a private commercial, non-governmental satellite operator based in Russia. The main shareholder is Gazprom, one of the largest energy companies in the world.



Gazprom Space Systems' orbital fleet consists of three mid-size satellites under the Yamal brand. The Yamal-100 and Yamal-201 satellites are co-located in 90E position. These satellites serve mainly the Russian/CIS market. The Yamal-202 satellite operating in 49E orbital slot has a wide service area covering most of the Eastern Hemisphere and caters to the international satellite market. The Yamal-300K, 401 and 402 satellites are under construction, while the Yamal-601 is in development. Gazprom Space Systems' ground infrastructure consists of four teleports in the city of Moscow and in the surrounding Moscow region, which are connected to the main telecom backbones by means of fiber-optic lines. The company also has a wide network of earth stations across Russia.

In Russia, Gazprom Space Systems is not only a satellite operator but also a service provider and system integrator. Within Russia, along with satellite capacity, it provides satellite services including satellite links, video distribution, Internet access, network development and management. Gazprom Space Systems has more than 200 clients in Russia and abroad. One fourth of Gazprom Space Systems' revenues come from the international markets.

By 2015 the company intends to increase its satellite capacity by 400 percent from current levels and to build a new teleport in the Moscow region. Currently, the new Yamal-300K and Yamal-401 and 402 satellites are under construction.

For more information go to www.gazprom-spacesystems.ru

(Advertisement)

Interview with Gazprom Space Systems Director-General Dmitry Sevastiyanov

ussia-based satellite operator Gazprom Space Systems has plans to expand into the international markets. Backed by one of the world's largest energy companies and one of Russia's biggest banks, Gazprom is leveraging its unique pedigree to become one of the world's major satellite companies. Satellite Markets and Research spoke with Gazprom's Director-General Dmitry Sevastiyanov on their plans and what's in store for the company in the near future. Excerpts of the interview:

Q. In the competitive global satellite market, how do vou differentiate your company from the other established satellite operators? What are vour unique capabilities and service offerings?

A. There are currently two satellite operators based in Russia: the Russian Satellite Communications Company (RSCC) and our company Gazprom Space Systems (GSS). The difference between us and RSCC is that we are a private, non-governmental company developing our orbital and ground infrastructure with project financing without government budgetary support.

One main difference we have with most of the other satellites operators is that we have a big share of value-added services in our business (more than one third of our current Yamal satellites capacity we sell via value-added services).

Thus we are not only a satellite operator but also a satellite networks integrator and service provider. This approach allows us to develop a diversified clients base which enables us to decrease the market risks.

One more special feature - our company unlike traditional satellite operators actively participates in the process of developing and manufacturing its satellites. We have our own engineering expertise, we participate in the development of the key sub-systems such as

payloads and ground control facilities. This allows us not only to realize budgetary savings from the satellite manufacturing process but also decrease production risks. More importantly, the end result of this is that we get satellites with features that optimally meet the market's and our clients' requirements.

Q. How has your company's association with one of the largest energy companies benefited you and your customers?

A. Being our main shareholder Gazprom supports our company's development by helping us in attracting credit financing at affordable terms to implement our expansion projects such as the Yamal satellites. Gazprom is also our biggest client. It uses about 10% of our satellites capacity and services.

The feeling of confidence and reliability we enjoy thanks to Gazprom's support is passed on to our clients. Our clients realize that cooperation with Gazprom We are expecting to launch our next Space Systems is a guarantee of their own business success.

Q. You will be launching your new 300-series satellite Yamal vear. What markets will this satellite beam aimed at the international and other future satellites be focusing markets and what applications will this satellite be servicing?

have the same sales structure as that of markets. the Yamal 200 series. That is, we plan



Dmitry Sevastivanov

to provide satellite capacity and valueadded services for the Russian market and direct capacity provision for the international markets. The new Yamal satellites are designed so that, firstly, to provide for continuity of the current Yamal-200 satellites coverage; and secondly, to extend our business coverage and to implement new services thanks to the higher power parameters of the satellite links.

Yamal-300K satellite into 90°E orbital slot by the end of 2011. This satellite will satisfy the Russian market demand and support the overloaded Yamal-201 **next** at $90^{\circ}E$. Also it will have a steerable

In 2013 the large satellite Yamal-401 will be launched into the same orbital A. For our new satellites, we plan to slot. It will serve the Russian and CIS

A year before we expect to get on the tional partners. orbit at $55^{\circ}E$ position the other heavy satellite Yamal-402 intended for the We are open to "...we have rather ambitious Russian and CIS market as well as for using the abiliternational business of the company on ence of foreign also for entering new markets (for ex- developing ample, Africa).

up its international sales efforts adopting lately. In reaching out to the services. international market are you trying to reach foreign companies to enter For the satellite the Russian market or is more for industry, when investment cycle of new pany evolving in the next few years? Russian companies to go out to other satellites takes two-three years, the markets, or is it a combination of main condition of success is available A. Gazprom's strategic purpose is to both?

our Russian market, new

capability to promptly react to dynamic become the leader among global oil & market situations. Using satellite ca- gas companies. In this connection our pacity of the other operators on an in- company, as the space and telecommu-

further developing already existing in- ties and experi- plans for international the Middle East and Asian markets, and companies when activities, and we are ready business on the to implement them with Q. Your company has been stepping in particular for international partners..."

nications asset of Gazprom, intends to

Yamal Constellation by 2015



Gazprom Space Systems' satellite fleet currently consists of three satellites -Yamal 100 and 201 sharing the 90°E slot and Yamal 202. Four satellites are being planned to be launched in the next few years giving the company coverage over most of the Eastern Hemisphere.

Currently a quarter of our company revenues comes from the international markets. With new capacity coming from our satellites to be launched in the next three years (totally it is more than 200 equivalent transponders), we hope to maintain this proportion of our revenues from the international markets.. So we have rather ambitious plans on international activities, and we are ready to implement them with interna-

of the possible forms of cooperation. It gions of interest for our shareholders. also makes sense to implement projects This includes the regions of the Far with high technical and commercial East, Africa, and Southeast Asia. GSS risks (new markets, new services) in has rights for five orbital positions in cooperation with other companies. We geostationary orbit and by using them know a lot of precedents of such coop- we potentially can provide for satellite eration and our company is open to coverage over the entire ____ Eastern consider opportunities for such joint hemisphere. project ventures.

terim basis for efficient solutions is one grow its presence first of all in the re-

Q. Finally, how do you see your com-

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Opportunities in the South East Asian Broadband Market for Satellite Services

by Tom van der Heyden Contributing Editor

onnecting the growing mobile and wireless infrastructure in Asia to the World Wide Web is by far the best potential long term market for satellite capacity in this part of the world after television broadcast driven requirements. Our data collection, research and resulting analysis shows that over the next 2-5 years internet driven markets will represent 25 - 35% of the South East Asian satellite broadband customer base and by the year

What's Driving Asia's Broadband Growth

The growth recognized in Asia is the same as the rest of the world – video streaming, photo sharing, social networking, peer-to-peer networks, etc. There is one major difference though in South East Asia. While the bandwidth drivers are the same or localized versions of the same hungry applications, internet penetration in the South East Asian market-place is very low - about 10% by 2009 estimates.

2020 this market will have grown to represent 80% - 90% of the customer base.

As internet traffic increases driven by streaming media, peerto-peer, social networks, and other bandwidth hungry applications, voice traffic will remain a key service ingredient, but longer no the most



A Key Theme of the Morgan Stanley Mobile Internet Report, published in December 2009, is that "Mobile Internet Potential in Emerging Markets Should Not Be Underestimated". Specifically the report referred to the emerging markets of Asia (excluding China and India):

The chart above from Point Topic graphically depicts what would take many pages of text to describe – South East Asia; 1) is the largest market/ population, 2) has the highest recent growth rate, and 3) has the lowest population penetration, other than the Middle East / Africa, and then only be a small margin.

"Other Emerging Asia – mobile broadband already taking off in Malaysia / Philippines; Indonesia + Thailand have /

important ingridient. If fiber and satellite connectivity are compared, latency inevitably is one of the topics to be considered. Not only for voice applications (which considers anything over 75-100 ms as an unacceptable delay), but also internet throughput is impacted by latency, thus latency will always be an important factor in delivering high-quality connectivity beyond the locations served by fiber—but we found it is not the most important factor.

In South East Asia Broadband Wireless Access represents the largest opportunity for transponder capacity lease, with an expected growth of 4 - 6% Compounded Annual Growth Rate (CAGR) through 2020.

planning to issue licenses. Given high literacy levels but limited fixed broadband, mobile is expected to be the main "access" point for Internet. Expect larger operators with balance sheet / spectrum / backhaul to benefit. These include Telkom Indonesia, AIS, PLDT and Axiata."

Morgan Stanley also reports on Wi-Max's significant growth. According to the report, Wi-Max covers more of the APAC population than all other emerging markets combined.

Morgan Stanley observes that offering internet service via

Wi-MAX & 3G, at today's costs, can be 5 times lower in "cost per/bit" than DSL for last mile connectivity. Wireless infrastructure also offers the ability to connect entire cities and towns in a matter of a few days. Lower costs, combined with rapid deployment, speak strongly for robust internet access growth in South East Asia.

The Potential for Satellite Backhaul Services in South East Asia

South East Asia relies on mobile connectivity for voice and its growing internet connectivity as shown above, which in turn creates significant opportunities for satellite connectivity.

Industry monitors agree that the regional market for satellite transponders in Southeast Asia had an approximate 10.6% growth from 2007 - 2008, noting that this was the fourth year in a row of continuous growth.

In fact despite the global economic downturn, demand has remained strong and continues to increase, driven by the introduction of new Direct Broadcast Satellite Systems (pay TV) and by increasing requirements for telecom services, including for cellular trunking and a growing Broadband Wireless Access requirement.

When looking at the supply of transponders versus the increasing demand in Asia, based on a review of satellites under construction and launch vehicle reservations, in 2015 the afford. downward slope of transponder availability will intersect with the upward demand slope.

Wireless infrastructure bandwidth requirements drive the majority of the broadband requirements (outside of the television broadcast arena), thus the level of mobile service penetration vs. internet connectivity define the Satellite Broadband market. When mobile subscriber growth is considered against the internet population, satellite broadband service demand projections are the result.

When the overall South East Asian market, a market which is based primarily on cellular and wireless infrastructure, a market literally addicted to the internet, with a strong and growing economic engine is examined, one comes up with both the qualitative and quantitative conclusion that Broadband Wireless Access (BWA) will be the largest market segment for Satellite Broadband in Asia.

Cost Per Bit is the Most Significant Factor

Through interviews we carried out over the last six months with operators, equipment vendors, and consulting entities, We found that Asian operators held price above quality in "...In South East Asia Broadband Wireless Access represents the largest opportunity for transponder capacity lease, with an expected growth of 4 – 6% Compounded Annual Growth Rate (CAGR) through 2020..."

every case except for television distribution. Discussions with both end users (cellular and telephone companies) as well as satellite service providers confirmed that "it's all about price".

This is not such a difficult position to appreciate when one takes a look at the upcoming demand vs. availability. The top six countries in South East Asia by population have an average of 10% internet penetration. When the availability of a critical resource (internet) is this scarce, it will always be more important to deliver "something" at an "acceptable" quality and price - rather than a lesser amount at a higher quality and price.

This is exactly the model satellite based television broadcasters use in the developing markets as well. It is a better business case to have more television channels of reasonably good quality picture, than less at a quality and cost fewer can

Conclusion

As more and more broadband wireless infrastructure is built out, be it 3G, LTE, Wi-Max, to satisfy the internet driven demand for web access and bandwidth, Satellite Broadband services will continue to grow. This growth, given the competitive nature of the mobile and wireless industry, costs and issues associated with laying fiber, will be a principal business base for satellites based services, here in Asia for the next 10 - 15 years.



Tom van der Heyden is the Director and CEO at Sky Fiber Asia, a Hong Kong startup focused on developing regional satellite infrastructure businesses. Tom is a digital broadcast and satellite communications industry pioneer, with 25 years building

satellite systems and companies across Asia. He can be reached at phone +852 9862 8558 or e-mail at: tom.vanderheyden@skyfiberasia.com



The Asia-Pacific Multichannel Market (2009)

		% of Total Homes
Total Population	3,421,478,856	
Total Number of Homes	858,277,004	100%
Multichannel Homes	326,167,949	45%

The Asia-Pacific region is home to nearly 3.5 Billion people, over half the world's population. There are 858 million homes of which 45 percent have access to multichannel TV services.

Source: Cable and Satellite Broadcasting Association of Asia (CASBAA).

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The Satellite Markets 25 Index[™]

Company Name	Symbol	Price (Jun 03)	% Change from 2-Weeks Ago	52-wk Range	% change from 52-wk High
Satellite Operators Asia Satellite Eutelsat Communications Hughes Communications Inc. Inmarsat SES Global FDR	1135.HK ETL.PA HUGH ISAT.L SES.F	11.70 27.39 26.81 785.50 17.00	2.99% 5.75% 8.98% 9.32% 0.29%	8.17 - 12.80 16.97 - 28.88 20.25 - 31.52 491.00 - 819.00 12.76 - 18.97	 ♣ 8.59% ♣ 5.18% ♣ 14.94% ♣ 4.09% ♣ 10.38%
Satellite and Component Manufactur Boeing Company (The) COM DEV International Lockheed Martin Corporation Com Loral Space and Communications Orbital Sciences Corporation Co	ers BA CDV.TO LMT LORL ORB	64.31 2.66 79.71 39.66 15.56	-0.39% -1.48% -1.79% 7.16% -5.35%	38.92 - 76.00 2.52 - 4.15 67.39 - 87.18 19.27 - 45.45 12.19 - 19.63	 15.38% 35.90% 8.57% 12.74% 20.73%
Ground Equipment Manufacturers C-COM Satellite Systems Inc. Comtech Telecommunications Corp. CPI International, Inc. EMS Technologies, Inc. ViaSat, Inc.	CMLV CMTL CPII ELMG VSAT	0.2850 29.28 15.47 15.58 33.33	-1.72% 0.45% 1.38% 0.71% 3.77%	0.26 - 0.37 27.59 - 38.39 7.13 - 16.11 12.00 - 23.17 23.53 - 36.74	 22.97% 23.73% 3.97% 32.76% 9.28%
Satellite Service Providers Gilat Satellite Networks Ltd. Globecomm Systems Inc. International Datacasting ORBCOMM Inc. RRSat Global Communications Net	GILT GCOM IDC.TO ORBC RRST	4.44 8.14 0.2650 2.06 9.00	-12.60% 3.83% -3.64% -1.90% -1.32%	3.46 - 6.25 6.25 - 8.99 0.22 - 0.34 1.45 - 3.23 8.54 - 13.44	 28.96% 9.45% 22.06% 36.22% 33.04%
Consumer Satellite Services British Sky Ads DIRECTV DISH Network Corporation Globalstar, Inc. Sirius XM Radio Inc.	BSYBY.PK DTV DISH GSAT SIRI	33.70 39.68 21.36 1.94 1.01	5.48% 6.58% 1.57% 22.78% -1.94%	27.63 - 39.07 21.47 - 39.87 14.17 - 24.16 0.61 - 2.11 0.30 - 1.25	 ↓ 13.74% ↓ 0.48% ↓ 11.59% ↓ 8.06% ↓ 19.20%

The Satellite Markets 25 Index[™] is a composite of 25 publicly-traded satellite companies worldwide with five companies representing each major market segment of the industry: satellite operators; satellite and component manufacturers; ground equipment manufacturers; satellite service providers and consumer satellite services. The base data for the Satellite Market Index is January 2, 2008--the first day of operation for Satellite Market and Research. The Index equals 1,000. The Satellite Market Index[™] provides an investment benchmark to gauge the overall health of the satellite industry.

INDEX	Index Value (June 3)	% Change 2 Weeks Ago	% Change Jan. 2010	% Change Jan. 2008
Satellite Markets 25 Index TM	1185.58	+ 7.02%	+16.87%	+14.99%
S & P 500	1110.88	- 0.72%	- 2.30%	-22.96%

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Satellite Executive Briefing

AAE Systems, Inc.

AAE Systems. Inc. A A @ manufactures satellite equipment and engineers customized turnkey solutions. With over 25 years

of experience, the company has a world-renowned reputation for developing intelligent satellite-based technologies.

AAE is recognized for excellence in the timely delivery of custom, complex, mission-critical solutions. It has extensive experience creating applications for military, defense, homeland security, government, disaster response, telemedicine, and education. End-to-end solutions contain comprehensive communications systems characterized by superior reliability, performance, usability, and security.

Mobile Communication Solutions

Rapid Response Vehicles

Rapid Response Vehicles (RRV) are field proven solutions for humanitarian and disaster response organizations. Each vehicle is an autonomous comprehensive communications suite in a fully integrated mobile package. Access to all subsystems occurs via a satellite link. Integrated subsystems include Wi-Fi phones, IP-PBX, IP-based video surveillance camera systems, IP video conferencing, messaging subsystem, and data and voice connectivity. Mission specific communication systems include a GSM microcell, VHF/UHF land mobile radio, HF radio, and a UHF/VHF ground-to -air/air-to-ground radio system.



AAE's Rapid Response Vehicle Satellite Executive Briefing

Trailer

cations Trailer are trailerized communications platforms ideal for disaster preparedness and military radio interoperability in an EoIP communications. Each trailer is an autonomous and comprehensive communications suite in a fully inte- Data Center Solutions grated mobile package. It includes Wi-Fi phones, IP-PBX, IP-based To protect data and increase organvideo surveillance camera systems. IP video conferencing, a messaging subsystem, and data and voice con- enterprise. Services available to nectivity. With slight modifications, this solution is also ideal for disaster selection, facility and infrastructure and humanitarian response, rural communications, as well as government and military applications.

Emergency Communications Trailer

The Emergency Communications Trailer is ideal for military and de-The ECT is fense organizations.



designed for rapid deployment, and provides communications to disaster stricken areas anywhere in the enterprise. world in a matter of minutes. A selfcontained communications platform equipped with fully integrated and interoperable communications systems including satellite, WiMax, and auxiliary two-way radio, the ECT extends voice, video, and data communications to the deployed area in an Everything-over-IP environment. With an on-board generator, extended run fuel tank, and environmental controlled electronics enclosure, the ECT supports up to 48 hours of continuous operations with-

Lightweight Mobile Communications out refueling. It is best suited for disaster and emergency response; command and control communica-The Lightweight Mobile Communi- tions; forward operating extension services; gateway extension services; and voice, video, data, and environment.

izational efficiency, AAE offers data center solutions for government and data center customers include site design, engineering, project management, construction, commissioning, monitoring and control, and operations and maintenance. Telecommunications collocation facilities providing space, power, cooling, and remote hands for the management of both data and hardware assets are also available. Teleport facilities include several antennas pointing at a number of satellites providing coverage all over the world.

Customer Base

AAE has an international customer base, with systems deployed in the Americas, Europe, the Middle East, and Asia. It has extensive experience developing solutions for customers in government, military, and

The company also designs solutions for a number of industry specific applications including : oil and gas; retail; banking; disaster recovery; emergency response; mining; education; medicine; rural communications, aid relief and rehabilitation, satellite news gathering, among others.

information For more go to: www.aaesys.com ×

Emergency Communications Trailer

- Autonomous comprehensive communications service center and gateway
- Expanded communications coverage area by wireless extension services
- Onboard power and environmental control systems
- Programmable radio interoperability switch interface for up to 8 emergency responder radio systems
- VHF/UHF FM LMR Repeater, Ground-to-air, HF SSB Transceivers
- Highest effective throughput rate via TCP acceleration, Type of Service tailoring, and Quality of Service prioritization
- Everything-over-IP (EoIP) architecture supports heterogeneous integration of voice, video, and data

