

Strategic Issues Facing FSS Operators

by Jan Grøndrup-Vivanco

The Fixed Satellite Services (FSS) operators have all weathered the financial crisis and even managed to continue to grow their businesses in 2009 and are continuing to grow in the first half of 2010. However, the big question is: "What is their next act?"

Listed satellite operators are facing the issue of both growing their businesses and maintaining their financial ratios, in order to avoid being penalized by the financial markets. At the same time, bankers are starting to question the same operators to come up with new strategies based on growth outside their existing markets.

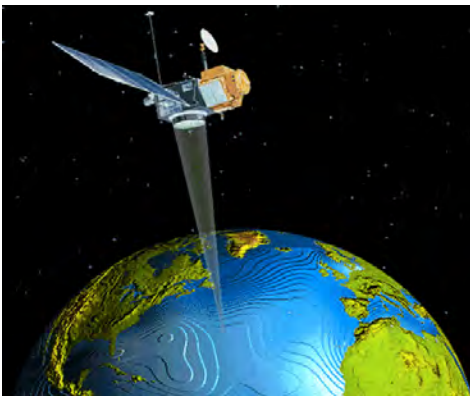
The FSS operators' revenues surpassed US \$10 Billion in 2009 growing 4.4% over 2008. This is slower growth than 2008, but still outperformed the global economy. There were worries about the satellite operators' ability to finance new satellites, which is essential to grow and maintain their revenues, as well as refinancing existing debt. This worry has largely proven unfounded, even though the refinancing cost was been higher compared to earlier in the decade.

The satellite operators weathered the debt crisis substantially better than many other industries and in terms of satellite financing going forward. Market conditions have changed dramatically for the better from 2009 and it is generally perceived to be an favorable time to raise capital for growth and to address debt refinancing.

According to Euroconsult, the video distribution via satellite market, which is the main revenue and growth driver for most of the operators, remained robust with approximately 27,000 TV channels broadcasted at year end 2009. This represents a growth of

approximately 3,000 new channels in 2009. EuroConsult expect the TV satellite broadcasting market to grow to 40,000 channels by 2019.

The average fill rate for the FSS satellite fleet reached a new high of 77% in 2009 and is expected to peak at 78% in 2010 after which a decrease is expected in several regions due to large capacity additions.




For enterprise satellite networks, these are expected to grow from approximately 2 million terminals today to over 6 million terminals in 2019. Consumer satellite broadband subscribers are expected to grow from approximately one million terminals today to almost 12 million terminals in 2019.

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The FSS Market



In this issue we look at the Fixed Satellite Services (FSS) market. As our cover story by Jan Grøndrup-Vivanco points out, the FSS operators have largely emerged unscathed by the great recession. If you look at the Satellite Markets and Research index on page 17, the index of a composite 25 satellite companies, has actually increased by 16.10% since January 2008 at the beginning of the recession. In contrast, the S&P 500 decreased by 22% in the same period. The phenomenal performance of the satellite industry was achieved for the most part by the FSS sector.

The FSS sector as a result of years of consolidation is now dominated by the “big four” —there of which are based in Europe, namely, Intelsat, SES and Eutelsat plus Canada-based Telesat. Together the big four accounts for two-thirds (67%) of the FSS market leaving the other one-third to some 30 regional operators. By some accounts, we have not seen the last of consolidation in the FSS sector and there’s talk of mergers even among the “big four.”

Two important developments that we have seen in the FSS market in the last few years, is that operators with single satellites have fallen by the wayside (except for a few nationally-owned operators) and regional operators like Amos Spacecom, Gazprom, Measat, and Asia Broadcast Satellite, to name a few, are expanding into other markets and building up their fleets. This makes for a very interesting FSS market.

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With above market estimates in mind, the financial markets are therefore still expecting growth from the satellite operators, but also recognise that it is an issue to both grow and maintain the current high Earnings Before Interest, Taxes, Depreciation and Amortization (EBITDA) margin levels. For stock market quoted operators this is an issue as some bankers expected the market to react negatively if EBITDA margin levels fall below 70-75%.

On the other hand the financial community is also starting to ask “what’s going to be the next act for the satellite operators?” i.e. what new systems and revenue models will the operators be able to develop from its current operating models, which is mainly based on wholesaling C- and Ku-Band capacity.

Asia and Latin America are expected to continue to be growth regions for the operators, and again the satellite operators are between “a rock and a hard place,” because transponder yields are lower, and in some cases significantly lower, in these regions which could impact the current eye-catching financial ratios.

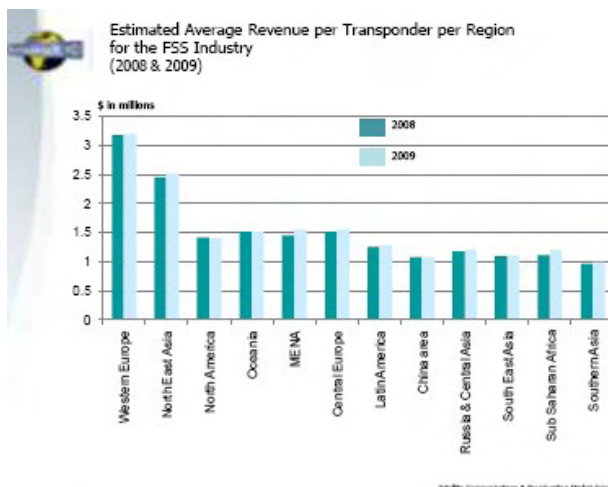
It’s been interesting to watch the financial community’s reaction to Inmarsat’s new Ka-band satellite system, which has received a rather cautious reception. The contradiction is that this is exactly the forward move sought by the financial community; a global Ka-Band satellite system, a new revenue model and a move towards a more FSS type of business model for Inmarsat.

Possibly Ka-Band is one the “new acts” for the financial industry is looking for, as

“...the financial community is also starting to ask ‘what’s going to be the next act for the satellite operators?’ i.e. what new systems and revenue models will the operators be able to develop from its current operating models...”

all the large operators have or will launch satellites with Ka-band capacity. Ka-Band is expected to provide significant growth also for the broadband via

only happened on a limited scale, due to unrealistic valuations often coupled with national interest and because mostly minority interest are for sale.



The average transponder leasing rate in 2009 was US\$ 1.62 million per year according to Euroconsult. This varies greatly from region to region with highs of over US\$ 3.2 million in the congested Western European sector. Transponders prices have held up during the recession due to high transponder fill rates expected to average 78 % in 2010. (Source: Euroconsult)

satellite segment, though it is unclear what the successful business model will be; wholesale, B2B or B2C.

The operators have all historically done very well being in the wholesale part of the value chain, and notorious poor in the retail part of the value chain. The financial community is unforgiving, so getting the strategy right with Ka-band is crucial for the operators.

Asia has been ripe for consolidation for some time now, however this has so far

“Winds are changing” in Asia, making it possible to acquire interests in local operators which make financial sense. Permira’s recent private equity investment in Asia Broadcast Satellite and the privatization of Measat is confirming this. With the WTO and free trade talks within Asia, it is expected that the present nationalistic protection will diminish paving the way for further consolidation.

These strategic issues will require a rethink by the operators in terms of how they position their growth model with external investors and getting back to basics that satellite communication on the operator level requires a real long term view, however for a long term investor the satellite industry still offers

plenty of opportunities, and a business that’s proven resilient in times of financial turmoil.



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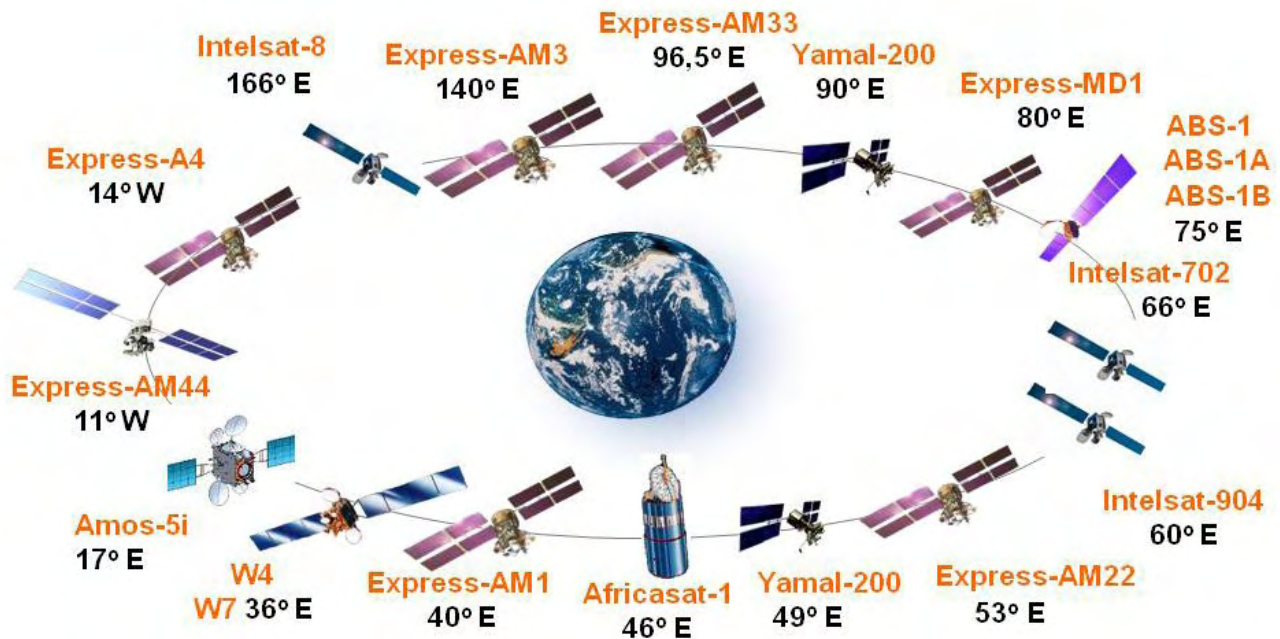
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The **Intersputnik International Organization of Space Communications** was established on November 15, 1971. Today, **Intersputnik** has 25 member states in practically all parts of the world from Latin America to Southeast Asia and from Europe to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

Intersputnik Satellite Fleet Overview



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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■ A summary of the most important news and developments in the last two weeks.

MERGERS & ACQUISITIONS

L-3 Communications Acquires 3Di Technologies

Hanover, MD, Sept. 17, 2010—L-3 Communications acquired 3Di Technologies, LLC (3Di). 3Di provides highly specialized end-to-end secure satellite communications utilized by forward-deployed United States special operations and in-theater personnel. The terms of the transaction were not disclosed. The business will be included in the Microwave Group within L-3's Electronic Systems segment.

Headquartered in Hanover, Maryland, 3Di's products and services are applicable to intelligence, defense and select commercial customers. The company's business approach seamlessly combines equipment, professional services, satellite services, VoIP services, and field support into customized turnkey solutions. 3Di is expected to generate approximately \$40 million of sales for the year ending December 31, 2010.

"3Di will enhance L-3's overall position as a communication solutions provider," said John S. Mega, president of L-3's Microwave Group. "3Di is a leading innovator in secure satellite communications and we look forward to expanding L-3's presence in this emerging, high-growth market."

Harmonic Completes Omneon Acquisition

San Jose, California, Sept. 15, 2010 - Harmonic Inc. announced that it has completed the acquisition of video production and playout solutions provider Omneon, Inc., for an aggregate consideration of approximately US \$194 million in cash and approximately 17.1

million shares of its common stock. This represents an enterprise value of approximately \$273 million, based on the value of Harmonic's common stock as set forth in the definitive acquisition agreement and net of Omneon's cash balances.

KVH Completes Acquisition Virtek Communications AS

Middletown, RI, Sept. 17, 2010—KVH Industries, completed its US\$ 6.5 million all-cash acquisition of Virtek Communication AS. Norway-based Virtek specializes in the development and deployment of software known as "middleware" that helps commercial fleets and vessel owners manage the data transmitted to and from their vessels over different satellite communications services, such as KVH's own mini-VSAT Broadband or Inmarsat Fleet-Broadband.

"In order to provide the highest quality maritime VSAT service available, we recognized that our end-to-end solution would be improved if we were able to optimize the data transmitted over the network while providing an array of versatile onboard applications specially designed to work well in the maritime environment," said Martin Kits van Heyningen, KVH's chief executive officer.

Permira Funds Invest in Asia Broadcast Satellite

Hong Kong, Sept. 13, 2010 - A company backed by the Permira funds, along with the Asia Broadcast Satellite (ABS) management team, has reached an agreement to acquire Kingsbridge Limited, the holding company for ABS. The Permira funds will become the majority shareholder of ABS.

Founded in 2006 by CEO Thomas Choi, ABS supplies bandwidth connectivity to broadcasting and telecom customers, serving over 80 customers in around 30 countries. ABS currently operates three satellites in orbit under the ABS brand, one under co-brand with a third party and two additional satellites in the pipeline including the new state-of-the-art ABS-2 scheduled to be launched in early 2013. ABS' prime orbital locations cover four fifths of the world's population, targeting high growth markets in Asia, Russia, Africa and the Middle East.

The acquisition of ABS is entirely equity funded. The Permira funds support ABS' goal to become a leading satellite operator in its target markets. One of its key near-term initiatives is to build and launch the new ABS-2 satellite, which will be one of the largest fixed service satellites to be launched over the Eastern Hemisphere.

The Permira funds have significant experience in the satellite sector, having previously made successful investments in Inmarsat, a leading provider of global mobile satellite communications services (2003) and Intelsat, the leading provider of fixed satellite services worldwide (2005). At Inmarsat, the Permira funds backed substantial investment in technology through the financing of the design, launch and manufacture of the I-4 fleet of satellites, the most advanced commercial mobile communications spacecraft of their kind. While at Intelsat, the funds facilitated the successful acquisition of Panamsat and the pursuit of new growth opportunities.

Citigroup Venture Capital International Proprietary Investment Partnership, L.P. and Citigroup Venture Capital International Co-Investment, L.P., which have

been the majority shareholders of ABS since 2006, agreed to sell their respective interests in the holding company of ABS, along with ADM Capital and certain other shareholders, subject to the terms and conditions of the share purchase agreement dated 9 September, 2010. Terms of the deal were not disclosed. The acquisition of ABS marks the Permira funds' third investment in Asia since 2007.

CONTRACTS

US Army Exercises Contract Option of US \$4.3 Million with Globecom for the Production of the Joint IP Modem

HAUPPAUGE, N.Y., Sept. 20, 2010 / BusinessWire/ -- The U.S. Army has exercised a US\$ 4.3 million contract option with Globecom Systems for the continued production of the Joint IP Modem (JIPM). The exercise of this option now brings the base contract to \$22.8 million, with \$64.2 million of options remaining over the next 5 months.

Globecom is the prime contractor for the JIPM effort, providing program and contract management. Under subcontract to Globecom, ViaSat Inc. is responsible for the network system and modem design, including the integration of DVB-S2/DVB-RCS open standard IP technology.

SES Extends Multi-Launch Agreement with ILS

Luxembourg – Sept. 6, 2010 – International Launch Services (ILS) and SES announced the extension to December 31, 2014 of the SES Multi Launch Agreement (MLA) and the addition of a sixth firm ILS Proton mission through 2014. The MLA was signed in June 2007 between ILS and SES Satellite Leasing Limited, SES's satellite procurement and leasing company in the Isle of Man.

The first SES launch under the MLA was the successful ILS Proton launch of SES-1 on April 24, 2010. In addition, two of the four SES missions scheduled in 2011 and 2012 for the launches of the SES-3, SES-4, QuetzSat-1 and SES-5/ASTRA 4B satellites will be part of the MLA. The remaining three MLA missions will be assigned as needed and in principle cover the 2012 – 2014 time frame.

The Proton vehicle, built by ILS majority owner Khrunichev State Research and Production Space Center, is Russia's premier heavy-lift launcher and has a heritage of 359 flights since the 1960's.

Arianespace Signs Vega Production Contracts with ESA and ELV

Evry, France, Sept. 8, 2010– Arianespace and the European Space

Agency signed the production contract for the first operational Vega launch.

At the same time, Arianespace and Vega prime contractor ELV signed the VERTA framework contract, covering the five Vega launchers to be delivered after the qualification flight.

The framework contract provides for ELV to deliver five Vega launchers to Arianespace. Vega is a small launch vehicle with three solid-propulsion stages, and a fourth stage with a reignitable liquid rocket engine.

Arianespace will start operation of the new Vega launch system in 2011, alongside the Ariane 5 heavy launcher and the Soyuz medium launcher. These three vehicles comprise the European launcher family operated by Arianespace at the Guiana Space Center, Europe's Spaceport in French Guiana.

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■ Key industry trends and opportunities.

More Than 1,200 Satellites to be Launched in 10 Years

Two-Thirds of the demand will come from the Government Sector according to Euroconsult

Paris, September 6, 2010 – Euroconsult forecasted that an estimated 1,220 satellites will be built for launch over the next decade.

The average of 122 satellites to be launched per year is up significantly from the annual average of 77 satellites launched in the previous decade, a sign that government and commercial operators require more satellite capabilities. In Euroconsult's just released "Satellites to be Built & Launched by 2019, World Market Survey," the company projects that revenues from the manufacturing and launch of these 1,220 satellites will reach US\$ 194 billion worldwide for the decade.

The report concludes that governments around the world will continue to dominate the space market, accounting for two thirds of the total number of spacecraft launched and the same amount of launch and manufacturing revenues.

"Governments realize that satellite systems are a critical part of their country's infrastructure and contribute to socio-economic development by providing communications and geo-information solutions to many government agencies," said Rachel Villain, Director for Space of Euroconsult and editor of the report.

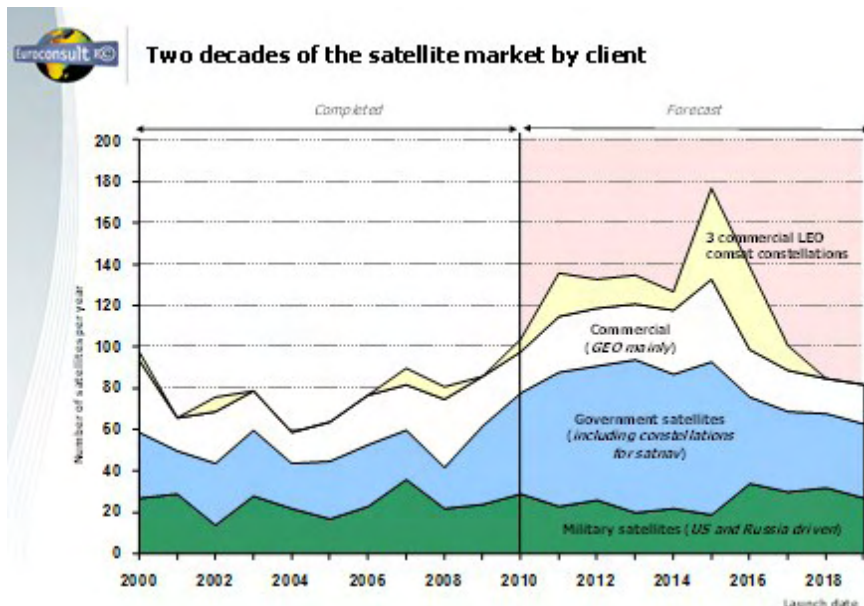
Civilian and military government agencies in 50 countries will launch a total of 808 satellites in the next decade, with two-thirds of these satellites designated for civil or dual use. The military space market remains concentrated in a limited number of countries (USA, Europe, Russia, China, Japan and Israel). Despite the fact that defense and security

agencies prefer proprietary military satellite systems for communications, imagery intelligence, and space surveillance, budget constraints will encourage alternative solutions such as public-private partnerships (PPP) and government payloads hosted on commercial satellites, the report predicts.

In non-military areas, governments are expected to procure satellites for operational missions in Earth observation, meteorology, navigation, and communications. The Euroconsult report says that governments will also develop more missions for space science and exploration, as well as launch technology demonstration missions to qualify future satellite technology

and validate new applications like automated identification systems (AIS). Earth observation is expected to be the dominant application with a total of 267 satellites projected over the next decade as more governments order and launch satellites through national space agencies, multilateral agencies and public-private partnerships for both civilian and military uses of satellite optical and radar imagery.


At US\$ 128 billion over the decade, the government market is double the commercial market but it is largely closed to non-domestic manufacturers. Most of that market is for satellites destined for low Earth orbits (46%) with higher altitude orbits (GTO, MEO, HEO and deep space) making up the difference.



Commercial space is dominated by 50 companies operating communications and broadcast satellites in geostationary orbit. The two largest companies, Intelsat and SES, have a fleet of over 40 satellites each. The commercial space market is driven primarily by established operators' investment cycles as they replace aging capacity in-orbit, and to a lesser degree by new systems promoted by new commercial companies and governments. Because technology advances allow construction of geostationary (GEO) satellites of ever increasing capacity, operators can expand satellite services with fewer satellites. These advanced satellites are heavier, which also drives the size and performance of launch vehicles.

Euroconsult forecasts 214 commercial communications satellites will be launched into the GEO arc during 2010-2019, with a market value of US\$ 55 billion. The peak of the cycle will occur early in the decade, with 25 units to be launched

per year, declining to fewer than 20 units per year at the end of the period.

Commercial satellite services outside the geostationary orbit will get a boost with a total of 200 satellites to be built and launched into medium and low Earth orbits (MEO and LEO) during the period. Most of them (80%) will be communications satellites to replace the first LEO generation operated by Iridium, Globalstar and Orbcomm and to create the first generation constellation of O3b, an innovative system to be launched into MEO. Additionally almost 40 satellites will be launched into low Earth orbit for commercial optical and radar imagery (e.g. Infoterra, GeoEye). According to Euroconsult the US\$ 11 billion in revenues generated by the manufacturing and launch of these satellites will remain small compared to GEO communication satellites. 

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Declining Demand for Satellite Backhaul?

By NSR

Cambridge, MA, September 20, 2010—In 2010, the UN-HABITAT's report, *State of the World Cities 2010/2011: Bridging the Urban Divide* found that the global population has reached its tipping point, a condition where populations are more urban than rural. Today, 50.6% live in urban areas, and the trend is irreversible.

Since satellite backhaul is really a proposition for rural and underserved areas, population trends initially do not appear to favor satellite solutions over the long term. Looking at the actual projections by the U.N., the good news is that currently, the less urbanized regions of Asia and Africa are expected to reach their respective tipping points in 2023 and 2030, providing healthy prospects for backhaul initiatives over the long term. But the bad news is that South America and Latin America/Caribbean regions are way past their tipping points at 83.7% and 71.7% respectively in 2010.

An even more serious finding in the U.N. report is that “the degree of a country's urbanization is now an indicator of wealth.” So here, we have a declining rural population base and thus a declining addressable market. And what remains of the addressable market is markedly less wealthy compared to their urban counterparts, once again diminishing the market that can be tapped for satellite backhaul offerings.

However, a few things need to be considered before such a dire conclusion can be reached:

Population Growth—The world's population is still rising such that the addressable market in absolute terms is still quite large.

Large Rural Base—The group of countries with the greatest economic prospects is currently known as BRIC (Brazil, Russia, India and China). In examining the move from rural to urban areas, China presents the starkest evidence of this trend. Indeed, China's rural population is estimated to shrink from the current 900 million to 400 million in 30 years. Should satellite backhaul then give up on the China or BRIC markets? Certainly not!

“...Since satellite backhaul is really a proposition for rural and underserved areas, population trends initially do not appear to favor satellite solutions over the long term...”

The years 2025 and 2030 are many, many years away. A satellite launched in 2010, 2011 or even 2015 can still expect to gain backhaul revenues during its lifetime. In fact, that same satellite can be replaced and still gain healthy revenues within its lifespan.

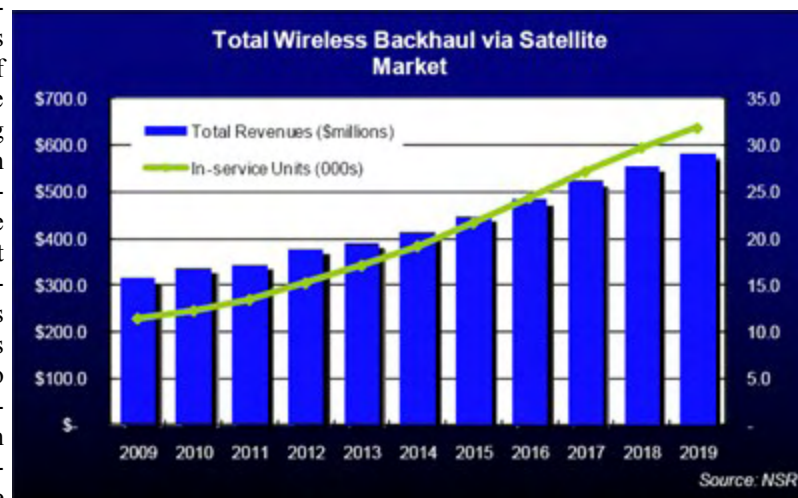
Though declining as a market base, 400 million rural dwellers in China is still a very large market to tap. By comparison, the entire U.S. population is expected to reach 312 million by 2015 and 347 million by 2025.

BRIC as well as other countries will continue to provide healthy opportunities despite the urban tipping point.

Wealth, Cost and Disposable Income—In subscribing to wireless services, the cost issue is paramount, whether in rural or urban areas. The U.N. report actually indicated that “if the cost of

living was factored in, the prevalence of urban poverty would rise closer to that of rural areas.” So in a sense, there is parity in poverty, which means that there is also parity in wealth, cost and disposable income levels. A wealthier rural population such as China's 400 million in 30 years presents a very attractive market base to tap.

The Bottom Line—Satellite backhaul will continue to grow even with the urban tipping point. Growth will indeed be tempered by urbanization such that steady instead of dynamic growth is expected to take place in the satellite backhaul sector. Cost and ROI considerations in rural areas will be key to satellite's success.



Information for this article was extracted from NSR's report [Wireless Backhaul via Satellite, 4th Edition](#)

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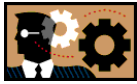


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The AMOS-5i satellite, is the latest addition to the AMOS fleet. With a position at 17°E, a new orbital position, Spacecom's coverage is expanding to Africa. AMOS-5i provides powerful C-band and Ku-band coverage over Africa and is serving as an interim satellite until the AMOS-5 satellite's scheduled launch in mid-2011. Once operational, the AMOS-5 satellite will replace the AMOS-5i in its orbital position, expanding both coverage areas and capacity, to deliver high-power C-band and Ku-band capacity to the entire African continent. AMOS-5 and AMOS-5i complement Spacecom's existing satellite fleet consisting of AMOS-2 and AMOS-3, and together with AMOS-4, slated for launch in 2012 to serve Asia, will establish Spacecom as a true global satellite operator.

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AvL Technologies delivers superior mobile satellite communication antenna systems and positioners. 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

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Founded in 1976 by the 21 member-states of the Arab League, **Arabsat** has been serving the growing needs of the Arab world for over 30 years. Now ranked as the world's 10th largest satellite operator & by far the leading satellite services provider in the ME & Africa, it reaches millions of homes in over 100 countries across the ME, Africa & Europe; including more than 164 million people within the 21 Arab countries.

Operating a growing fleet of owned satellites at the 26° East and 30.5° East positions of the geostationary orbit, Arabsat is the only satellite operator in the MENA region offering the full spectrum of Broadcast, Telecommunications and Broadband services. This capacity will continue to expand with the launch of new satellites from 2010 to 2012, making the Arabsat satellite fleet the youngest in the region with the highest possible reliability coupled to ultimate flexibility. This translates to a now unrivalled in-orbit backup, as well as more space capacity than any other player in the region for more TV and radio broadcasting services, professional data network solutions, telephony and IP trunking backbone connectivity, and broadband Internet access for media and entertainment companies, corporate customers and government entities.

www.arabsat.com

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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 EURO BIRD™ 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.

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www.cetteleport.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. 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 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

at IBC 2010
Visit Gazprom in Hall 4 at Stand # 4.C51



Globecom Systems Inc. provides end-to-end value-added satellite-based -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 Globecom offers include pre-engineered systems, systems design and integration services, managed network services and life cycle support services. Globecom'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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SatService is an ideal source for customized Satellite Ground Stations, Satellite News Gathering, Monitoring and Control Software. SatService is in a position to provide customer competitive and customer dedicated solutions with the quick reaction time of a small but responsive company.

Additionally SatService develops the *sat-nms* product family. Detailed information about the *sat-nms* equipment and software solutions for satellite ground stations like Beacon Receiver, Antenna Control Unit, and Monitoring & Control Systems are located on the website www.satnms.com

www.satservicegmbh.de

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W.B. Walton Enterprises (Also known as Walton De-ice) designs and manufactures the broadest line of equipment available for preventing the accumulation of snow and/or ice on satellite earth station antennas. The original Walton De-ice product includes a behind the antenna main reflector plenum (enclosure) which is heated with hot air. These systems are for antennas ranging in size form 5-meters to 32-meters in diameter. Walton De-ice offers several options for heating including, gas heaters with their economical operation advantages or the low maintenance Stainless Steel

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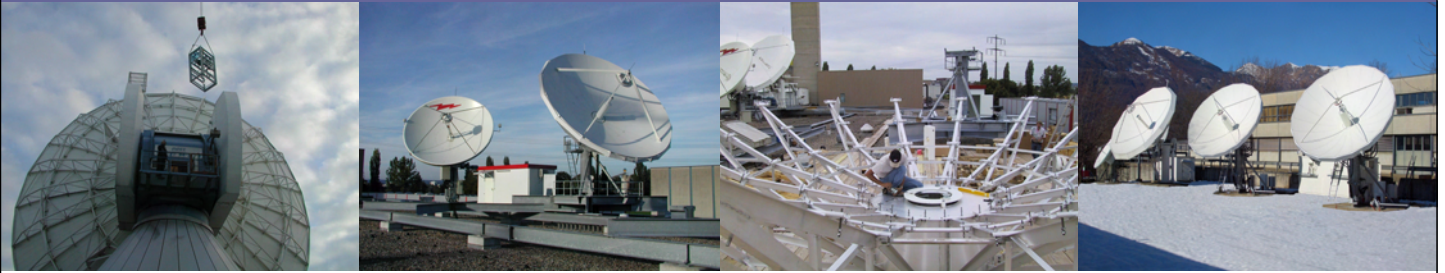
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www.wavestream.com

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SatService GmbH

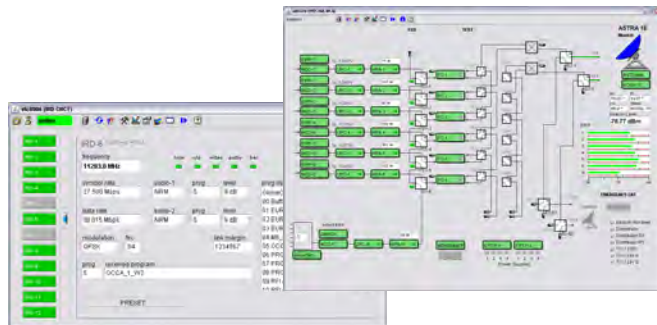
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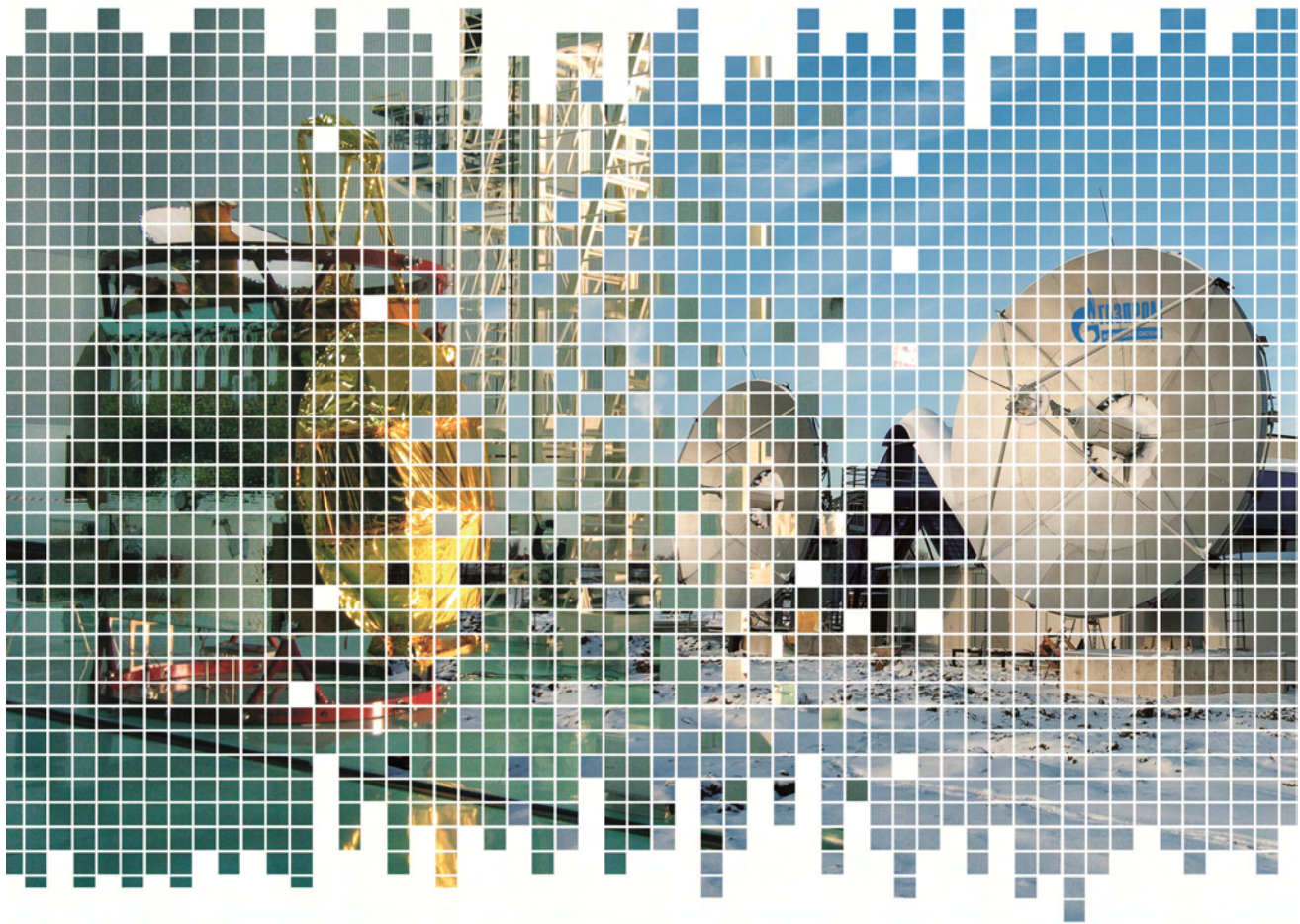


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Gazprom Space Systems (formerly Gascom) – is a private commercial, non-governmental satellite operator based in Russia. The main shareholder is Gazprom, one of the largest energy companies in the world.



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.

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

(Advertisement)

The Satellite Markets 25 Index™

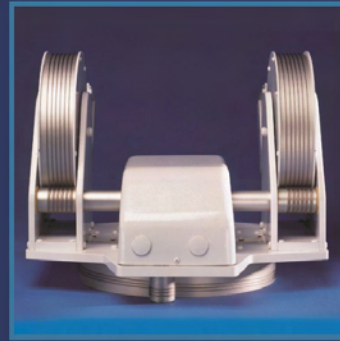
Company Name	Symbol	Price (Sep 16)	% Change from 2-Weeks Ago	52-wk Range	% change from 52-wk High
Satellite Operators					
Asia Satellite	1135.HK	13.40	6.35%	9.80 - 13.50	↓ 0.74%
Eutelsat Communications	ETL.PA	29.26	1.21%	19.93 - 29.49	↓ 0.76%
Hughes Communications Inc.	HUGH	25.42	7.08%	21.19 - 31.52	↓ 19.37%
Inmarsat	ISAT.L	719.00	2.64%	526.00 - 831.00	↓ 13.48%
SES Global FDR	SES.F	18.12	-0.60%	14.15 - 19.01	↓ 4.63%
Satellite and Component Manufacturers					
Boeing Company (The)	BA	62.57	-0.45%	47.18 - 76.00	↓ 17.66%
COM DEV International	CDV.TO	1.93	10.29%	1.61 - 4.15	↓ 53.49%
Lockheed Martin Corporation Com	LMT	68.60	-2.28%	67.39 - 87.18	↓ 21.31%
Loral Space and Communications	LORL	51.81	-4.34%	23.34 - 56.85	↓ 8.87%
Orbital Sciences Corporation Co	ORB	13.59	2.26%	12.38 - 19.63	↓ 30.82%
Ground Equipment Manufacturers					
C-COM Satellite Systems Inc.	CMLV	0.28	0.00%	0.27 - 0.36	↓ 22.22%
Comtech Telecommunications Corp.	CMTL	25.05	19.97%	20.19 - 38.39	↓ 34.75%
CPI International, Inc.	CPII	14.16	-0.70%	9.27 - 16.20	↓ 12.56%
EMS Technologies, Inc.	ELMG	16.33	8.50%	12.00 - 21.33	↓ 23.44%
ViaSat, Inc.	VSAT	37.79	5.59%	24.95 - 38.50	↓ 1.84%
Satellite Service Providers					
Gilat Satellite Networks Ltd.	GILT	6.00	21.70%	3.95 - 6.25	↓ 4.00%
Globecom Systems Inc.	GCOM	7.73	13.51%	6.36 - 8.99	↓ 14.02%
International Datacasting	IDC.TO	0.2750	14.58%	0.22 - 0.34	↓ 19.12%
ORBCOMM Inc.	ORBC	2.09	10.58%	1.64 - 3.23	↓ 35.29%
RRSsat Global Communications Net	RRST	7.90	8.22%	7.02 - 13.21	↓ 40.20%
Consumer Satellite Services					
British Sky Ads	BSYBY.PK	44.30	1.26%	30.54 - 45.87	↑ 13.39%
DIRECTV	DTV	41.05	7.12%	25.16 - 41.07	↓ 0.05%
DISH Network Corporation	DISH	18.62	1.31%	17.06 - 24.16	↓ 22.93%
Globalstar, Inc.	GSAT	1.61	-1.23%	0.61 - 2.11	↓ 23.70%
Sirius XM Radio Inc.	SIRI	1.1099	13.42%	0.51 - 1.25	↓ 11.21%

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 (Sept. 16)	% Change 2 Weeks Ago	% Change Jan. 2010	% Change Jan. 2008
Satellite Markets 25 Index™	1228.85	+ 10.55%	+19.80%	+16.10%
S & P 500	1121.18	+3.85%	- 3.43%	-22.24%

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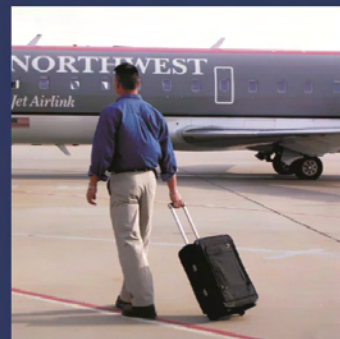
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A More Balanced View of the Industry

**World Satellite Business Week
The Westin, Paris
September 6-10, 2010**

by Elisabeth Tweedie

Last year in Paris the mood was very upbeat with collective sighs of relief that compared to the rest of the world the satellite industry had escaped the recession comparatively unscathed. This year, while still very positive, the mood was more balanced with a recognition that at least for the manufacturers the peak order rates for commercial geostationary satellites (GEOs) of the last few years are not going to be repeated as the major operators have now largely completed their replacement cycles. The forecast for the next few years was pretty consistent with the major manufacturers expecting 20-21.5 per annum for the next few years.

neatly when he pointed out that when the world is your market expansion can only come from other products!

Andrew Sukawaty CEO of Inmarsat was very clear that this move had been made after discussions with customers and investors and was very much a “demand pull” and not a “technology push” with demand for broadband growing faster than the demand for low data rate services. Euroconsult showed a chart projecting total maritime satellite capacity revenues alone would be approximately US\$ 580 million from VSAT 2020. Inmarsat are projecting that five years after launch (i.e 2019) the annual revenue from Global Express, as the Ka-Band System is known, would be US\$ 500



A topic of key interest to them—and to the launch companies—was what size these satellites are expected to be, the only consensus there, was that demand was likely to be spread. ThalesAlenia presented a chart indicating that in the 2013-15 time period, extra large satellites were likely to account for 35% of the market, large for 25% and medium and small for 20% each.

For the FSS operators the news was also good – but not as good as in 2008 when combined revenues were up 10.5% on the previous year. In 2009 revenues increased to over \$10 billion, a 4.4% increase from 2008, however given the current economic climate this is hardly cause for anxiety! According to Euroconsult fill rates reached a new high of 77% in 2009 and exceeded 80% in all regions except North America and Asia.

In the salons and halls of the Westin Hotel the talk focussed on other things – Ka-Band and Maritime and Inmarsat in particular as the recent order for three Ka-Band satellites from Boeing combined these two topics. It seemed that everyone had an opinion as to why Inmarsat had done this and to the wisdom or otherwise of the move. In my opinion James Murray from Morgan Stanley summed it up very

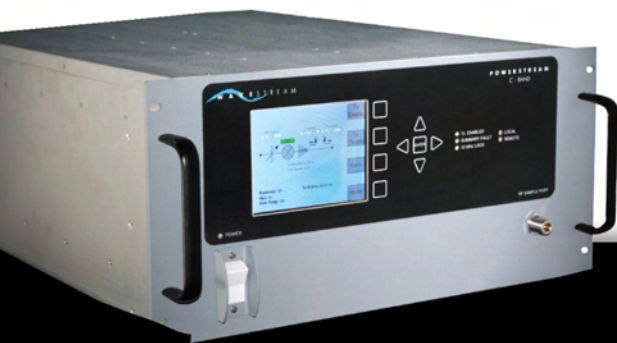
million, this however includes aeronautical and land as well. The service will provide 50 Mbps to 50cm antennas and 10Mbps to 20 cm antennas. As we all know Ka-Band suffers from signal degradation in areas of heavy rainfall – which happen to include some of the major shipping areas. Inmarsat’s answer to this however was to point out that the system would be integrated with their existing L-Band architecture so providing a unique hybrid system with built in “back-up” (albeit at a lower data rate) when needed. Ka-Band is however particularly suitable for aeronautical applications. A “significant” portion of the capacity of Global Express has been pre-sold to Boeing, who presumably will be looking to resell this to some of its government customers.

Ka-Band however is definitely the “flavour of the month” of the conference. Euroconsult showed a chart indicating that by 2013 excluding O3b there would be 60 commercial satellites with Ka-Band payloads on board. Of the dedicated Ka satellites the two European ones - Hylas 1 from Avanti and KaSat from Eutelsat – are due to be launched by the end of this year. ViaSat1 and Jupiter (the latter from Hughes) for North America are due to be launched in 2011 and 2012 respectively. David Williams CEO of Avanti indicated that they had follow on satellites, Hylas 2 for the Middle East and



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Africa to be launched in 2012 and Hylas 3 for “the Americas”. An interesting proposition, but one would have to assume that Avanti is not planning on trying to outpace two well established operators in North America both of whom—if all goes according to plan—will be operating High Throughput Satellites by the time Hylas 3 launches. It would therefore seem safe to assume that Hylas 3 is destined to cover all or parts of Central and South America.

SES however remains more cautious about the potential for a dedicated Ka-Band satellite in Europe. SES CEO Romain Bausch used the recent case in Germany - where four telecoms operators received a total of 80Mhz of spectrum with the proviso that they first provide broadband in areas where there was no terrestrial service – to illustrate why a dedicated satellite for Europe was a risky business. With a bent pipe satellite a decision such as that could render capacity focused on those areas virtually useless, so potentially destroying the business case. Having said that SES is an investor in O3b and Ciel and all 4 of the satellites currently being constructed for SES have Ka-Band payloads so there is obviously no inherent prejudice against the frequency.

The financial markets may still be tight but the satellite industry has found an alternative source of funding: ECA or Export Credit Agencies which provided \$3 billion in loan guarantees in 2009 and a further \$2.1 billion so far this year. Coface (France) started the trend when it provided loan guarantees for the second Globalstar constellation early in 2009, but since then Export-Import Bank (USA), the Chinese government and Export Development Canada have all joined in and beneficiaries include Iridium, Avanti and SES.

However although much of the talk and interest was focused on Ka-Band and Inmarsat, for the foreseeable future video and TV broadcasting still remain the main growth driver for commercial satcoms. Globally in 2009 27,000 TV channels were broadcast by satellite – 3,000 more than in 2008. Euroconsult reported that emerging markets accounted for 82% of the net increase in 2009 and 56% of the capacity used. SES forecast that by 2017 North America would actually show a negative CAGR of 0.5% with the highest growth rates coming from Eastern Europe, Russia and the CIS and Latin America (4.7%, 5% and 5.2% respectively). Overall however Asia remained the largest market accounting for 28.5% of total C- and Ku-Band transponders in 2017.

Satellite Pay TV subscribers increased by 16% to 132 million worldwide and so far this year 11 new DTH platforms have been launched bringing the total to 113. This compares to 9 new platforms in 2009. HD has been and continues to be a major growth driver. Excluding DirecTV and Dish there are now approximately 1,000 HD channels worldwide with channels outside North America increasing by 80% to

Calendar of Events

October 5-7, 2010 **APSCC Broadcasting and Space Conference and Exhibition 2010** Tokyo, Japan Tel:+82 31 7836246 E-mail: info@apscc.or.kr web: www.apscc.or.kr

October 13-14, 2010 **SATCON 2010** Javits Convention Center, New York City, USA, Tel: +1 (203) 371-6322 E-mail: info@jdevents.com web: www.satconexpo.com

October 25-28, 2010 **CASBAA Convention 2010**, Grand Hyatt Hotel, Hong Kong, Tel:+ 852 28549913 Email:casbaa@casbaa.com web:www.casbaaconvention.com

November 23-24, 2010, **3rd Annual Oil & Gas Communications South East Asia Conference: Redefining the Digital Oilfield Onshore, Offshore, Deep & Ultra-Deepwater (O&CGSEA2010)**, Crowne Plaza Mutiara Hotel, Kuala Lumpur, Malaysia web: www.ukemp.co.uk/3rd.O&G.SEAAsia.2010/

December 6-8, **2010 DoD Commercial SATCOM Workshop**, Hyatt Crystal City in Arlington, Virginia, USA E-mail: info@sia.org web: <http://www.dodsatcom.com/ginfo.html>

560 last year. Unlike the NAB Convention in April of this year, where one could be forgiven for thinking that 2D TV, whether HD or SD, was about to go the way of Black and White TV and future programming would all be in 3D the sentiment at Satellite Business Week was more cautious and in my opinion more realistic, with only a very small portion of the almost 40,000 TV channels forecast by Euroconsult for 2019 being 3D. Among the operators Eutelsat alone was still bullish quoting George Jeffrey, Former President, Europe National Geographic Channels: “I really believe in 3D – it’s a game changer. I think it’s a genuinely, gob smacking, wow moment and you don’t get that many in life so here’s one coming up!”

Time will tell if he is correct!



Elisabeth Tweedie is Contributing Editor for Satellite Markets and Research . She has over 20 years experience at the cutting edge of new communication and entertainment technologies. During her 10 years at Hughes Electronics she worked on every acquisition and new business that the company considered during her time there. She can be reached at: etweedie@definitivedirection.com

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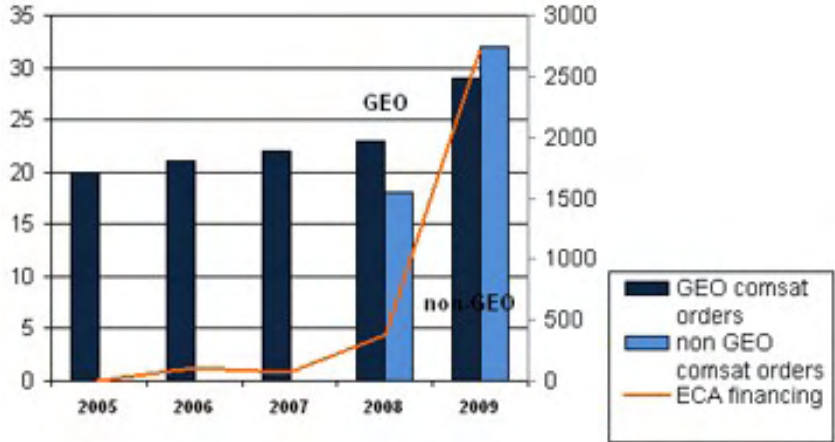
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Vital Statistics

Export Credit Agencies Step Up to the Plate

During the great recession, credit and private financing was hard to come by for most companies. However, for the satellite industry, new sources of funding have emerged in the form of loan guarantees from Export Credit Agencies (ECAs) like France's COFACE, the US Export-Import Bank and Export Development Canada, among others. Funding from ECAs to the satellite industry has risen from almost nothing in 2005 to over US\$ 2.5 Billion in 2009. Among those who've availed of this facility is Iridium for its US 1.7 Billion and Asian satellite operator Asia Broadcast Satellite to finance its expansion.



Source: Euroconsult.



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Founded in 1976 by the 21 member-states of the Arab League, **Arabsat** has been serving the growing needs of the Arab world for over 30 years. Now ranked as the world's 10th larg-

est satellite operator & by far the leading satellite services provider in the ME & Africa, it reaches millions of homes in over 100 countries across the ME, Africa & Europe; including more than 164 million people within the 21 Arab countries.

Operating a growing fleet of owned satellites at the 26° East and 30.5° East positions of the geostationary orbit, Arabsat is the only satellite operator in the MENA region offering the full spectrum of Broadcast, Telecommunications and Broadband services. This capacity will continue to expand with the launch of new satellites from 2010 to 2012, making the Arabsat satellite fleet the youngest in the region with the highest possible reliability coupled to ultimate flexibility. This translates to a now unrivalled in-orbit backup, as well as more space capacity than any other player in the region for more TV and radio broadcasting services, professional data network solutions, telephony and IP trunking backbone connectivity, and broadband Internet access for media and entertainment companies, corporate customers and government entities.

Arabsat also maintains strategic partnerships with most of the world's leading satellite companies and VAS integrators, allowing customers to reach farther than ever and deliver content or state-of-the-art solutions to any end-viewers audience or business partner around the world.

Arabsat is committed to staying at the forefront of satellite services in the region, continuously expanding its range of customer oriented solutions with an unparalleled level of quality, bringing in cutting-edge technology, and providing the largest ever amount of capacity to meet the growing and evolving needs of its customers across the Arab world - and beyond. To support this ambition,

Arabsat has announced that, after launching two new Satellites in 2007 & 2008, Arabsat will continue to launch one new satellite every year over the coming four years.

Satellites

From a technical perspective, Arabsat currently operates capacity on five owned satellites at its 26° East and 30.5° East orbital positions.

- **Arabsat BADR-4**, 26°E Direct-to-Home (DTH) "Hot Spot" in Ku-band.
- **Arabsat BADR-6**, 26°E Direct-to-Home (DTH) "Hot Spot" in Ku-band; and C-band for Telecommunications.
- **Arabsat BADR-5**, 26°E Direct-to-Home (DTH) "Hot Spot" in Ku-band & Ka-band.
- **Arabsat-2B**, 30.5°E essentially carrying Telecommunications services in both C-band & Ku-band, and it will be moved to 20° E once 5-A is launched.
- **Arabsat-5A**, 30.5°E, Telecommunication services in both C-band & Ku-band, covering the African continent.

This variety of satellites enables Arabsat to provide the highest downlink power and the widest coverage area over the MEA (Middle East & Africa) region compared to any other satellite operator. In addition, with its new state-of-the-art BADR-6 & BADR-5, and Arabsat 5-A, Arabsat will have by far the youngest, and therefore the most reliable fleet in the region.

Also, through a series of strategic partnerships with the world leaders in satellite communications, Arabsat also provides seamless complementary connectivity with the rest of the world via its "Global Arabic Bouquet" digital platforms, enabling its Broadcast customers to reach their final audiences 24/7, wherever they are.

Services

Arabsat customers use its satellites for

two main ranges of services:

Broadcasting

- Digital Direct-to-Home TV & Radio broadcasting (DTH). An Arabic digital bouquet of channels to Arab viewers in Europe, Africa, North & South America, and Asia;
- Video Distribution;
- Backhauling links from content-origination sites to multiplexing and uplinking sites;
- Video Contribution;
- Occasional Use: program exchanges and feeds, e.g. News, Sports, and Special Events.

Telecommunications

- Voice & Data trunking;
- Regional Telephony;
- Internet backbone connectivity;
- Data networks;
- Public/Government networks, mostly domestic;
- Private networks, either intra-regional or domestic.

Locations

We are now closer to our customers with four active regional offices in Dubai (UAE), Cairo (Egypt), and Paris (France), in addition to our headquarters in Riyadh (Saudi Arabia) and two control earth stations in Riyadh and Tunis. Also, Arabsat now offers One-Stop-Shop services available by partnering with Media hubs & Teleports (Lebanon, Jordan, Egypt, UAE, Kuwait, and Spain).

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