

Space Smart

Space Business Review

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- SPECIAL EDITION: THE TOP-10 SPACE BUSINESS STORIES OF 2006 -

#1-M&A and JVs Redefine FSS Industry

Blockbuster merger and acquisition activity in 2006 transforms the Fixed Satellite Services landscape. SES Global acquires New Skies Satellites (March). Thales Group announces purchase of Alcatel's interests in Alcatel Alenia Space and Telespazio (April). SES Astra picks up ND Satcom (May). Intelsat completes its acquisition of PanAmSat (June). SES Global and Eutelsat collaborate to provide S-band multimedia broadcasting services (October). Abertis and Caisse des Dépôts et consignations purchase 32% and 25.5% stakes, respectively, in Eutelsat Communications for €1.07 billion and €862.7 million, marking the exit of Eutelsat's private equity owners. Loral Space & Communications Inc. and Canadian Public Sector Pension Investment Board ink a \$2.8 billion deal to purchase Telesat Canada (December). Liberty Media Corp. picks up News Corp.'s 38.5% stake in DirecTV Group, Inc. (December).

#2-Satellite Manufacturers Flush

23 commercial satellite orders announced in 2006.

Alcatel Alenia Space: Turksat 3A, Ciel-2, W2A and W7.

Boeing Satellite Development Center: MSV-1, -2 and -3. EADS Astrium: Nimiq 4, W2M (in cooperation with ISRO), HOTBIRD 9, HYLAS (in cooperation with ISRO), BADR-6, HOTBIRD 10 and ASTRA 3B. Lockheed Martin Commercial Space Systems: VINASAT-1. Mitsubishi Electric Corporation: Superbird-7. Orbital Sciences Corporation: AMC-21 (in cooperation with Alcatel Alenia Space) and NSS-9. Space Systems/Loral: Telstar 11N, AsiaSat 5, SIRIUS FM-5 and ProtoStar-1. Surrey Technology Ltd.: NIGERIASAT-2.

#3-MSS Sector Shows Resilience

The Mobile Satellite Services industry continued to demonstrate traction and growth as *Orbcomm Inc.* and *Globalstar Inc.* secured debt and equity financing facilities and completed IPOs. *TerreStar, MSV* and *ICO* moved forward with their planned hybrid space segment/ATC enabled systems while *Inmarsat* launched its broadband *BGAN* service world-wide and inked a comprehensive collaboration deal with *ACeS. Apax Partners France* acquired *Telenor Satellite Services*.

#4-Launch Services Sector Developments
In 2006 Lockheed Martin sells its interest in ILS and price inflation in Russia impacts the industry. However 22 commercial satellites are launched. Ariane: HOTBIRD 7A, Satmex 6, Thaicom 5, JCSAT-10, DIRECTV 9S, OPTUS D1, WildBlue-1 and AMC -18. Atlas: ASTRA 1KR. Long March: Sinosat-2. Proton: Arabsat-4A, KazSat-1, HOTBIRD 8, BADR-4 and MEASAT-3. Rockot: Kompsat-2 (Arirang-2). Sea Launch: EchoStar X, JCSAT-9, Galaxy 16, Koreasat 5 and XM-4. Start-1: EROS B.

#5- Satellite Radio Interest Continues XM Satellite Radio and SIRIUS Satellite Radio respectively approached 8 million and 6 million subscriber marks and together attracted approximately 5 million net additions in 2006. WorldSpace faces growth challenges and ONDAS Media signs up development partners for service in Europe.

#6-Remote Sensing Industry Matures
Orbimage Holdings Inc. completes its acquisition of
Space Imaging LLC's assets, re-brands as GeoEye and
lists on NASDAQ. DigitalGlobe orders the WorldView
II high resolution satellite capable of sub ½ meter
resolution panchromatic images, and ImageSat
International N.V. completes \$85 million recapitalization
and launches its EROS B satellite with standard 0.7 meter
panchromatic resolution. Google Earth and Google
Maps become household names and Microsoft joins the
fray with launch of its Virtual Earth mapping application.

#7-Galileo Marches On, Slowly

Galileo Industries GmbH executes €950 million contract for development and construction of the first four satellites (in-orbit validation phase) of the Galileo navigation system, however the GIOVE-B satellite is delayed and debate continues in Europe as to where the governmental body overseeing Galileo will be located.

#8-Satellite Broadband

WildBlue Communications Inc. launched its dedicated Ka-band WildBlue-1 satellite in December and signed over 100,000 customers in the US. iPStar is quickly ramping up subscribers and in December launched nationwide service in China. Hughes Network Systems, LLC and Avanti Communications Group plc are developing systems in North America and Europe. Will satellite broadband finally take off?

#9-Space Tourism Closer to Reality

X-Prize sponsor Anousheh Ansari completes an eight-day International Space Station visit as part of the Expedition 14 crew (fourth paying and first female customer to visit space). Virgin Galactic's five SpaceShipTwo spaceliners, under construction by Scaled Composites, are scheduled to begin customer flights in 2009. For \$200,000 or 2 million Virgin Atlantic frequent flier miles, you can sign-up for a 2.5 hour flight reaching an altitude of approximately 68 miles.

#10-Satmex Emerges, ProtoStar Rises Satmex completes its restructuring process, successfully launches Satmex 6, emerges from Chapter 11 bankruptcy and is considering strategic and financing options. ProtoStar Ltd. raises \$250 million to finance the purchase and launch of the former ChinaSat 8 satellite as it implements plans to serve DTH markets in Asia.

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