

- SPECIAL EDITION – THE TOP-10 SPACE BUSINESS STORIES OF 2011 -

Space Business Review

#1 – Deal or No Deal

2011 will be remembered for a number of transformative deals that happened, and some that did not: **EchoStar** acquired the assets of **Move Networks Inc.** and purchased **Hughes Communications, Inc.**, while sister company **DISH Network** picked up **Blockbuster Inc.**'s assets and acquired **DBSD North America Inc.** and **TerreStar Networks Inc.** via bankruptcy proceedings; **Honeywell** purchased **EMS Technologies Inc.** and **OHB AG** acquired the Space Systems Division of **Swedish Space Corporation**; **Telesat Canada**'s shareholders terminated its sales process while co-owner **Loral Space and Communications Inc.** announced plans to spin-off **Space Systems/Loral**. **Intelsat S.A.** planned its IPO.

#2 – Space Transportation Milestones

Significant launch services industry milestones for 2011: **NASA's Space Shuttle** program ended after 30 years and 135 missions; **Sea Launch** resumed operations following its bankruptcy restructuring with new owner **Energia Overseas Ltd.**; **Arianespace** celebrated its 200th launch and the first **Soyuz** mission from the **Guiana Space Center**; **ILS International Launch Services** performed its first **Proton Breeze M** dual launch mission; **China Great Wall Industry Corporation** secured additional international customers; and **Space Exploration Technologies Corp.** secured various commercial customers for its emerging Falcon 9 launcher.

#3 – Spectrum Scarcity & Competition

Insatiable demand for mobile broadband connectivity highlighted the need for efficient capacity growth and spectrum management: **LightSquared** challenged allegations that the terrestrial portion of its wholesale 4G LTE wireless network is incompatible with **GPS** services in the U.S.; **DISH Network** planned a competing service by combining the assets of **DBSD North America** and **TerreStar Networks**; and **Hughes** and **Star One** picked up strategic orbital slots and spectrum rights from Brazilian regulator **Anatel**.

#4 – Broadband Birds Up & Running

A number of next-generation broadband satellites were launched or commenced operations in 2011 to provide DSL-equivalent services in Africa, Europe, the Middle East and North America, including **HYLAS-1** (Avanti Communications), **KA-SAT** (Eutelsat), **Yahsat 1A** (Al Yah Satellite Communications Company PrJSC) and **ViaSat-1** (ViaSat, Inc.).

#5 – Consolidation and Collaboration

Vertical integration, consolidation and cooperative ventures were key 2011 themes: **Inmarsat plc** purchased maritime communications services provider **Ship Equip International AS**; **EADS** subsidiary **Astrium** acquired mobile satellite and ground systems providers **Vizada** and **ND Satcom**; satellite manufacturers **Thales Alenia Space** and **ISS Reshetnev** agreed to jointly develop satellite platforms, components and subassemblies.

#6 – Satellite Procurements Keep Pace

Despite an anticipated cyclical dip, 18 commercial satellite orders kept pace with last year: **Boeing**: MEXSAT satellite communications system (2); **Astrium**: MEASAT-3b, Eutelsat 3B and DIRECTV-15; **Lockheed**: Jabiru-1; **Mitsubishi Electric**: Turksat-4A & -4B; **Orbital**: SES-8, Thaicom 6 and the MEXSAT system (1); **Space Systems/Loral**: AsiaSat 6 & 8, DLA-1 & -2, Optus 10 and THOR-7; and **Thales**: Turkmenistan's first Ku-band satellite.

#7 – Satmex Finally Restructures

In May, U.S. bankruptcy authorities approved the restructuring plan of **Satélites Mexicanos, S.A. de C.V.**, and with new financing in hand, a fleet renewal program is underway with the anticipated 2012 launch of **Satmex-8** and plans being drawn up for **Satmex-7**.

#8 – Hosted Payloads Capture Attention

Orbital Sciences Corporation acquired a right of first refusal on 20% of the **Iridium NEXT** constellation's hosted payload capacity; **Boeing Commercial Satellite Services** was formed to pursue governmental hosted payloads/services opportunities.

#9 – Evolution of the MSS Market

Iridium posts double digit subscriber growth and adds new services and **Globalstar** looks to roll out future services with 2nd generation satellites in orbit. What's next for MSS?

#10 – Modest Decline in Satellite Launches

22 commercial satellite launch missions: **Arianespace/Starsem**: Yahsat 1A, Intelsat New Dawn, ST-2, GSAT-8, ASTRA 1N, Arabsat-5C, SES-2, Galileo constellation (2) and Globalstar 2nd generation satellites (12); **China Great Wall Industry Corporation**: Zhongxing-10, PAKSAT-1R and W3C; **ILS International Launch Services & Russian government (Proton-M)**: Telstar 14R/Estrela do Sul 2, SES-3, KazSat-2, QuetzSat-1, ViaSat-1, AsiaSat 7 and AMOS-5; and **Sea Launch**: Atlantic Bird 7 and Intelsat 18.