

Space Business Review

A monthly round-up of space industry developments for the information of our clients and friends.

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Special Edition

The Top-10 Space Business Stories of 2013

CONTACTS:

Dara A. Panahy
202-835-7521
dpanahy@milbank.com

Bijan Ganji
202-835-7543
bganji@milbank.com

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#1 – NEWSPACE - THE NEW FRONTIER

"NewSpace" companies shake up space business: **Skybox Imaging** launches the first of its planned 24-satellite earth observation constellation and releases initial images and HD video; **Kymeta** remains on-track to introduce satellite antennas with patented metamaterials that enable beam steering without moving parts; **PlanetLabs** raises \$52m in new investment for its earth monitoring Dove satellites; **Nanoracks** expands microgravity research and CubeSat deployment options.

#2 – LAUNCH EVOLUTION/REVOLUTION

SpaceX flight qualifies the Merlin 1D engine and launches its first commercial geostationary transfer orbit mission (SES-8); **Orbital Sciences** test-launches its Antares rocket and berths a Cygnus™ cargo logistics spacecraft with the International Space Station; **Mitsubishi Heavy Industries** signs up its first commercial contract to launch Telesat's Telstar 12 VANTAGE on its upgraded H-IIA launcher; **Arianespace** reports a record launch contract backlog of over €4b, signs up new Vega and Soyuz missions and focuses on development of the Ariane 6; **International Launch Services** and **Proton** end 2013 on a high note following a rocky start.

#3 – STRATEGIC COOPERATION DEALS

Thales and **ISS Reshetnev** establish Universum; **ARABSAT** and **Es'hailSat** enter strategic spectrum rights agreement; **Arianespace** and **MHI** agree on joint development of new launch services offerings; **United Launch Alliance** and **RUAG** agree to develop a dual launch capability for the Atlas V and Delta IV launchers; **ORBCOMM** and **Inmarsat** form strategic alliance for M2M products.

#4 – FINANCING HAPPENINGS

Intelsat issues over \$6b of senior notes and sells 19.32m common shares in its IPO on the NYSE; **Avanti** completes its inaugural \$370m senior notes issuance; **SES** carries out its inaugural U.S. registered bond offering, consisting of \$1b of senior notes, and issues €500m in Euro bonds; **AsiaSat** secures \$343.3m from U.S. Ex-Im Bank for AsiaSat 6 and AsiaSat 8; **Spacecom** receives \$293m from U.S. Ex-Im Bank and Export Development Canada for AMOS-6; **DIRECTV** issues £350m of sterling-denominated senior notes; and **Sirius XM Radio** issues \$650m of senior notes.

#5 – CHINA & INDIA ASCENDING

The Chinese government successfully carries out manned and lunar space missions to complement **China Great Wall Industry Corporation's** significant commercial/civil satellite and launch programs; the **Indian Space Research Organisation** is allocated \$7.2b to fund a 5-year growth plan to launch 14 new satellites, implement a 7-satellite navigation system and develop a heavy lift launch vehicle.

#6 – ALL-ELECTRICS HERE TO STAY

SES/European Space Agency/OHB announce **ELECTRA** satellite initiative; **China Aerospace Corp.**, **Lockheed Martin**, **Space Systems/Loral** and **Thales Alenia Space** all report ongoing all-electric satellite development programs.

#7 – M&A ACTION

DigitalGlobe and **GeoEye** complete their merger; **ARABSAT** acquires a 99.05% stake in **Hellas-Sat**; **Liberty Media** assumes control of **Sirius XM Radio**; **Eutelsat** enters an agreement to acquire **Satmex**; **Abertis** strikes a deal to take control of **Hispasat**; following a strategic review process, **SingTel** elects to retain **Optus Satellite**.

#8 – HTS SATELLITE BONANZA

Intelsat orders four more Epic^{NG} satellites from Boeing; **Hughes** selects Space Systems/Loral for **Jupiter™ 2/EchoStar XI**; **ViaSat** contracts with Boeing for **ViaSat-2**, expected to be the highest capacity satellite ever, when launched in 2016.

#9 – HOSTED PAYLOADS PROGRESS

ARABSAT Ka-band payload for **Emerging Markets Communications** on **Badr-7**; **AsiaSat - GeoMetWatch (STORM™)** meteorology payload on a future satellite; **Iridium NEXT - Harris** hosted payload deal; U.S. government releases the **HoPs** hosted payload contracting vehicle.

#10 – COMMERCIAL SATELLITE ORDERS

Boeing: four Epic^{NG} satellites, a fourth Inmarsat-5 satellite, **Satmex 9** and **ViaSat-2**; **China Great Wall Industry Corporation**: **APSTAR-9** and **SupremeSAT-2**; **EADS Astrium**: **Badr 7**, **Express AMU1/EUTELSAT 36C**, a currently unnamed **DIRECTV** satellite and a currently unnamed **Telesat** satellite; **ISS Reshetnev**: **AOneSat-1**; **Space Systems/Loral**: **AsiaSat 9**, **Intelsat 34**, **JCSAT-14**, **Jupiter™ 2/EchoStar XIX** and **Star One D1**; and **Thales Alenia Space**: **SGDC**.