

# Space Business Review

Special Edition – Top Ten Space Business Stories of 2015.

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**#1 – LEOS BACK IN VOGUE**

OneWeb announces plans for 648-smallsat global Internet constellation, raises \$500MM in equity investments from Airbus, Bharti, Hughes, Intelsat, QUALCOMM, Coca-Cola, Virgin Group and Totalplay, establishes JV with Airbus; SpaceX announces plans for a 4,000-microsat constellation, scores \$1b investment from Google and Fidelity; UrtheCast reveals plans for 16-satellite imaging constellation; LeoSat plans global system to serve high-end enterprise customers; ORBCOMM completes OG2 launches; O3b Networks and Planet Labs plan to expand constellations; Iridium NEXT launches set to begin in 2016.

**#2 – STRATEGIC ALLIANCES ASCENDING**

SES/Government of Luxembourg for a military communications satellite; Intelsat/Azercosmos for Azerspace-2/Intelsat 38; Intelsat/Kymeta for mTenna™ satellite antennas optimized for Epic<sup>NG</sup> satellites; Eutelsat/Airbus/ESA for Quantum software-based satellite payload; Facebook/Eutelsat/Spacecom for a dedicated system to provide broadband services in Africa; Intelsat/JSAT for Horizons 3e; Telesat/APT Satellite for Telstar 18 VANTAGE/APSTAR-5C; DigitalGlobe/Saab for the establishment of Vricon JV; Harris/exactEarth for advanced global maritime tracking services.

**#3 – FSS ADAPTING TO TRENDS**

Capacity magnifying (HTS/Ultra-HTS); frequency and service types blurring (Ku-, Ka-, L-? – FSS/MSS/BSS?); handling the GEO/LEO divide; demand/usage paradigms changing and pricing pressure increasing; broadband mobility growing; emerging markets expanding.

**#4 – LAUNCH FIRSTS AND THE FUTURE**

Blue Origin completes New Shepard test flight, announces establishment of Cape Canaveral, Florida manufacturing facility; SpaceX Falcon 9 receives certification from U.S. Air Force to launch U.S. military satellites, successfully completes first stage landing; Long March 6 debuts; ULA unveils Vulcan, sets inaugural mission for 2019; ESA approves contracts for development of Vega-C, Ariane 6 and associated launch infrastructure; MHI plans development of H-III; ILS begins marketing Angara 1.2; Proton resumes flights; Virgin Galactic kicks off LauncherOne, opens new Long Beach, California facility; Rocket Lab announces launch site.

**#5 – MAJOR M&A ACTIVITY**

Harris/Exelis; Orbital/ATK; UrtheCast/Deimos; ORBCOMM acquisitions of InSync, WAM Technologies; Panasonic/TTC Global; Planet Labs/Blackbridge; EMC/MTN; Honeywell/COM DEV; SpeedCast acquisitions of Newsat Teleport, ST Teleport, SAIT Communications, NewCom International, Geolink, Hermes Datacom.

**#6 – LIGHT APPEARS AT TUNNEL'S END**

After three years, LightSquared exits bankruptcy in December following approval of its restructuring plan and FCC approval of spectrum transfer to newly-formed company, achieves "framework" settlement with Deere & Co on GPS signal interference.

**#7 – EXPORT CREDIT – AND DEBIT**

This year's beneficiaries: ViaSat Technologies for ViaSat-2, HISPASAT for Amazonas 5, Azercosmos/Azersky, O3b Networks; Ex-Im Bank and Coface are buffeted by NewSat bankruptcy; EDC rises after Ex-Im Bank reauthorization hiatus from June to December.

**#8 – WRC-15 – MISSION ACCOMPLISHED**

Satellite industry defends C-band against IMT; proposed studies on Ka-band re-allocation; new spectrum allocation for civil aircraft tracking and possible future additional FSS spectrum.

**#9 – COMMERCIAL MISSIONS LIFT OFF**

Arianespace Ariane 5: ARABSAT-6B (BADR-7), ARSAT-2, DirecTV-15, GSAT-15, SKY México-1, Sky Muster, Star One C4, THOR 7; Chinese Long March 3B/E: APSTAR-9; ILS Proton: Inmarsat-5 F2, TURKSAT 4B; ISRO PSLV: three satellites comprising the DMC3 constellation, four Spire cubesats; MHI H-IIA: Telstar 12 VANTAGE; Russian Proton: Express AM-7, Express AM-8; SpaceX Falcon 9: ABS-3A, Eutelsat 115 West B, TurkmenÄlem 52E/MonacoSAT.

**#10 – COMMERCIAL ORDERS MARCH ON**

Airbus: SES-14, first two Inmarsat-6 satellites, first Quantum satellite; Boeing: ABS-8, NYBBSat-1, SES-15, Silkwave-1; China Great Wall: APSTAR-6C; Lockheed Martin: Arabsat 6A, Hellas-Sat-4/SaudiGeoSat-1; Orbital ATK: geostationary satellite for an undisclosed customer; SSL: Azerspace 2/Intelsat 38, BSat-4a, Telkom 4, Telstar 18 VANTAGE/APSTAR-5C, Telstar 19 VANTAGE; Thales Alenia Space: Bangabandhu, eight O3b constellation satellites, all-electric HTS satellite for Eutelsat.