

APSCC Monthly e-Newsletter

MARCH 2017

The **Asia-Pacific Satellite Communications Council (APSCC) e-Newsletter** is produced on a monthly basis as part of APSCC's information services for members and professionals in the satellite industry. Subscribe to the APSCC monthly newsletter and be updated with the latest satellite industry news as well as APSCC activities! To renew your subscription, please visit www.apscc.or.kr/sub4_5.asp. To unsubscribe, send an email to info@apscc.or.kr with a title "Unsubscribe."

News in this issue has been collected from February 1 to February 28.

INSIDE APSCC

SatComm2017, 23 May, Singapore

APSCC invites you to check out how SatComm2017 is changing and impacting the world of **Future Connectivity**, how satellite will play a pivotal role in **Accelerating the Growth of M2M/IoT** and where we are at when it comes to **Next Generation Global Networks**. Gathering over 800 attendees at Asia's largest ICT Innovation festival hear from operators as well as these satellite players on how will all this pan out at the CommunicAsia2017 Summit.

23 May, SatComm:

- Keeping the Promise of HTS and its Commercial Value
- Growing the VSAT Potential: Deep-diving on Cellular Backhaul Capabilities
- Seizing Growth Opportunities in IoT and M2M Market – How will this Revamp the Role of the Satellite Industry?
- How is IP and Hybrid Networks Changing the Satellite Industry of Tomorrow?

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APSCC 2017 Satellite Conference & Exhibition, 10-12 October, Tokyo, Japan

The APSCC Satellite Conference and Exhibition is **Asia's must-attend** executive conference for the satellite and space industry, where business leaders come together to gain market insight, strike partnerships and conclude major deals. Celebrating its 20th annual event APSCC 2017 **#SATECHexplorer** will incorporate industry veterans and new players through the 3-day of in-depth conference program to reach out to a broader audience. **Join APSCC 2017** and expand your business network while hearing from a broad range of thought-provoking panels and speakers representing visionary ideas and years of business experience in the industry. For more information, please visit www.apscc2017.com

SATELLITE BUSINESS

SES Supports Luxembourg's Maritime Sector at Euromaritime

February 1, 2017 - SES S.A. announced that it is supporting Luxembourg's initiatives in the domain of maritime business by participating in the Salon Euromaritime, as part of the Luxembourg Maritime Cluster. Luxembourg's pavilion – organized by the Luxembourg Maritime Administration and the Luxembourg Maritime Cluster, with assistance of the Luxembourg Chamber of Commerce and the Ministry for Sustainable Development and Infrastructure – includes 11 participant companies from the Grand Duchy, all serving the maritime sector. SES will present its maritime connectivity solutions at Luxembourg's pavilion.

RSCC Posts 24% Revenue Increase

February 1, 2017 - Russian Satellite Communications Company (RSCC) has summed up the preliminary results of 2016. The Company revenues totaled 11.4 billion rubles, up 24% vs 2015 (9.2 billion rubles). The latest Russian satellite Express-AMU1 was commissioned in February 2016. RSCC has completed implementation of the satellite constellation renovation program for 2009-2015. Tens of millions of viewers in the European part of Russia have gained access to multi-channel digital television via the Express AMU1 spacecraft which delivers a new level of quality, including HD and UHD. At the present time, the RSCC space fleet includes 12 communication and broadcasting satellites positioned along the geostationary orbital arc from 14 degrees West to 145 degrees East. In 2016, acting on RSCC orders, the ISS Reshetnev company in collaboration with Thales Alenia Space proceeded to build the Express-80 and Express 103 spacecraft. The two new satellites are scheduled for launch into the geostationary orbit in 2019.

Taqnia Space Selects Eutelsat to Empower its HTS Aero Service

February 2, 2017 - Checking emails and social networks, streaming live content at 36,000 feet are poised to become reality at the end of this year for passengers connected to Taqnia Space Aero services' platform following an agreement between Eutelsat Communications and Taqnia Space (TSC), owned by the Public Investment Fund (PIF) of Saudi Arabia. The multi-million dollar, multi-year deal covers spotbeam capacity on the EUTELSAT 3B satellite in order to provide HTS connectivity services to Taqnia Space Airline clients over the Middle East, North Africa, Mediterranean and Europe regions. Bandwidth on EUTELSAT 3B will support live TV, on-board voice / GSM and broadband connectivity from third quarter 2017 on commercial aircraft connected to the TSC Aero platform. Saudi Arabian Airlines, one of the leading airlines in the Middle East, will be the first commercial airline connected to the platform, with more than 100 medium and long-haul aircraft. Passengers will enjoy the Taqnia Space Connectivity package through their devices - laptops, tablets, smartphones – on domestic flights in Saudi Arabia and international flights over the Middle East, North Africa, the Mediterranean and Europe.

Gilat Satcom Launches the One Minute Voice and Data Network

February 2, 2017 - Gilat Satcom, a communication solutions provider that offers satellite and fiber-based connectivity solutions in Africa, Asia, and the Middle East, launched its One Minute Network, a voice and data network that can be assembled and connected to the company's global satellite network within one minute. The One Minute Network has been developed for use throughout Africa including disaster areas, refugee camps and NGO offices, as well as temporary sites including events and mining research initiatives. Gilat Satcom has successful deployments in 50 countries worldwide and in 2016 was named as the Best African Satellite Provider in recognition of its investment in the development of a whole host of innovative technologies across both its satellite and fiber networks. The One Minute Network was designed in response to demand from a variety of existing customers including those working in disaster areas in Africa. The network is a ready-made system that contains all the components required to build a reliable and always-on network that can support voice, internet and video.

Airbus Provides Satcom for EU Security Missions in Mali, Niger and Somalia

February 2, 2017 - Airbus Defence and Space delivers satellite communications systems for EU military training missions in Somalia (EUTM Somalia) as well as for the EUCAP (European Union capacity-building mission) Sahel Niger and EUCAP Sahel Mali civilian missions. Led on behalf of the European Union, these missions aim to support the efforts of the respective governments to strengthen their stability and to respond to the security issues faced by their populations. Airbus Defence and Space teams have deployed C-band satcom systems between Europe and Somalia, Niger and Mali, as well as satellite-based mobile phone terminals to enable communications in Malian and Nigerien territories. Airbus Defence and Space supplies the ground equipment, communications services and airtime. Airbus Defence and Space has been providing satcom services for the European Defence Agency (EDA) since 2012. Recently, the organisation renewed its framework contract for the provision of satcom for another four years in order to meet the military and civilian requirements of the European missions. This new EU SatCom Market contract now encompasses X-band and UHF-band military satcom services, in addition to commercial C-, Ku-, Ka- and L-band satcom services.

Addvalue and Inmarsat Sign MOU

February 2, 2017 - Addvalue Innovation Pte Ltd., a wholly-owned subsidiary of Singapore's Main Board listed company, Addvalue Technologies Ltd, and Inmarsat, have signed a Memorandum of Understanding (MoU) to offer a data relay service to meet the communications needs of the Low Earth Orbit (LEO) satellite market. Up until now, communications with LEO satellites has only been available when the satellite is within sight of an earth station. This limited connectivity is available only on a rigid time schedule based on the particular LEO satellite's

orbit and the geographic placement of the earth stations. The new service designed to address this issue will be based on Addvalue's space tested Inter-Satellite Data Relay System (IDRS) terminal and Inmarsat's established Geosynchronous Earth Orbit (GEO) I-4 satellite-based Broadband Global Area Network (BGAN) network. The real-time links will enhance the operational efficiency of LEO satellites and Inmarsat and Addvalue expect to finalize a full agreement shortly. Under the proposed agreement, Addvalue and Inmarsat will take the IDRS service to market, providing commercial, on-demand, 24/7 two-way IP-based data services for in-orbit LEO satellite missions. Addvalue's IDRS is an innovative new service that addresses a long standing constraint confronting the operation of LEO satellites.

Thuraya Opens Office in the US

February 6, 2017 - Thuraya Telecommunications Company has opened an office in the United States of America. Located centrally between Washington D.C. and Tysons Corner, Virginia, the new office offers close proximity to investors, key government and commercial customers and partners. Thuraya is headquartered in the United Arab Emirates and has offices in Singapore. Its newest address marks a further step in the development of its ongoing FUTURA project and next generation constellation plans. With roaming agreements established in 175 countries, Thuraya is an international operator providing reliable roaming services with 389 agreements worldwide, including AT&T and T-Mobile. Thuraya is already well established in the United States. The new office brings the American team together, helping to serve a range of customers that includes the Department of Defense, which Thuraya counts among its list of longest standing customers. Its ongoing success is already supported by service providers and partners in the US, which is set to feature prominently in Thuraya's long term multidimensional program of expansion and diversification.

Gilat to Supply Broadband Consumer VSATs for the Joint Service of Tricolor TV and Eutelsat Networks

February 6, 2017 - Tricolor TV, Russia's largest Direct-to-Home (DTH) satellite TV provider and Eutelsat Networks satellite internet operator have launched a two-way internet access service, with broadband consumer VSATs from Gilat Satellite Networks Ltd. Gilat's residential terminal kits are sold and serviced by NoLimit Electronics (NLE), one of the largest distributors of electronic and related products in Russia. Launched in September 2016, the two-way "satellite Internet" service offers consumer and professional subscribers Internet access with speeds of up to 40 Mbps downstream and 12 Mbps upstream. To connect to the service, one needs to install receiving equipment, Gilat's Gemini broadband VSAT terminal, which can be self-installed and supports automatic service activation. Later this year, NLE is planning to offer Gilat's Scorpio VSAT, an innovative VSAT-in-a-Box, all outdoor solution, which further simplifies self-install, maintenance and easy roof mounting. Satellite capacity is provided by Eutelsat's Express AMU1/EUTELSAT 36C high throughput satellite, which delivers continuous coverage throughout Western Russia. The Eutelsat service is enabled by Gilat's scalable multi-application X-Architecture for SkyEdge II-c.

Airbus and ENGIE Ineo to Provide the Future Communications Network for French Military Air Operations

February 6, 2017 - The consortium consisting of ENGIE Ineo as prime contractor and Airbus Defence and Space as co-contractor has been awarded the DESCARTES STCA contract to deliver a high-availability communications network to control the air operations of the French Ministry of Defence. This eight-year contract signed with the French defence procurement agency (DGA) is part of the DESCARTES program. DESCARTES STCA will provide forces involved in air operations with an Internet-Protocol (IP) based, secure, cross-site telephone service to allow military missions to be carried out consistently with civil air traffic control and NATO networks, and to contribute to the implementation of the single European sky. The contract covers the design, deployment and support of the operational telephone system as well as the security system meeting air traffic control's very high availability and resilience requirements. It will be rolled out on around 60 sites in mainland France.

Inmarsat Completes Testing of Key Satellite Infrastructure for European Aviation Network

February 6, 2017 - Inmarsat has announced a key infrastructure milestone for its European Aviation Network (EAN), following the successful test and validation of the EAN Satellite Access Station (SAS). As the first solution in the world to integrate connectivity from a satellite, operated by Inmarsat, and a LTE-based ground network, operated by Deutsche Telekom, EAN will provide a true in-flight broadband experience for millions of airlines passengers travelling throughout Europe. The SAS is located in the Greek town of Nemea and operated under an agreement with OTE, the largest telecommunications provider in Greece and member of the Deutsche Telekom Group. Engineers undertook rigorous performance and stability tests to verify the SAS's capabilities to serve as a reliable and robust gateway between Inmarsat's S-band satellite and the internet.

Romantis Secures OU Services Using Intelsat for Russian Market

February 6, 2017 - Intelsat announced that Romantis, a global provider of premium satellite communication services, has secured services on Intelsat 33e to enhance its Occasional Use (OU) services to broadcasters in Russia and the CIS region. Intelsat 33e, the second satellite in the Intelsat Epic^{NG} platform, operates at 60° East and delivers high-throughput services for Europe, the Middle East, Africa and Asia. This enables Romantis to provide higher performance, improved availability and expanded coverage for its OU customers operating in this region. Intelsat 33e's powerful spot beams deliver greater throughput to smaller antennas, providing maximum quality and flexibility to Satellite News Gathering (SNG) professionals.

Inmarsat and Actility Deliver World's First Global LoRaWAN™ IoT Network Applications

February 8, 2017 - Inmarsat announced how its LoRaWAN-based network, developed in partnership with Actility, the industry leader in Low Power Wide Area Networks (LPWAN), is delivering on its strategy to bring the Internet of Things (IoT) to every corner of the globe. Early applications in Asset Tracking, Agribusiness and Oil & Gas are helping businesses in remote regions of the world become more efficient, reduce costs and drive new revenue through IoT-based solutions. The Inmarsat LoRaWAN network, powered by Actility's ThingPark™ LPWA platform, is the world's first global IoT network. It allows customers and partners to cost-effectively bring to market IoT solutions that can be delivered anywhere in the world, to any type of business, with LoRaWAN-based connectivity on the ground and satellite connectivity as the network backbone. The integrated platform provides an end-to-end solution that transmits site-specific data to applications in the cloud for analysis, delivering insights and supporting decision making, and creating value for the end customer.

Globecomm Introduces Metered VSAT Plans Offering Unprecedented Flexibility for Maritime Customers

February 8, 2017 - Globecomm Maritime has introduced metered VSAT plans to bring increased efficiency and flexibility to the maritime communications market. The plans include a range of data bundles as well as two Voice over IP (VoIP) lines, a Nimbus Smartbox and the option for Over-The-Top (OTT) provisioning of additional services. In addition to a typical 5GB core bundle for the ship's main business, the crew can access a separate bundle over a dedicated LAN or use the VSAT service on a pay-as-you-go basis. Because the data that each user group consumes is visible separately, management can keep costs and accounting separate for these groups and identify costs for additional services with split billing and exact allocation. If users find they need additional bandwidth, this can quickly be added to any chosen networks using Globecomm's fully-managed global VSAT network, based on iDirect Evolution hub modem technology. Globecomm's metered plans include the Nimbus Smartbox service, with entry plans starting at 5GB for \$595 per month giving access to the global coverage area. Users subscribing to these plans will be able to burst data up to 3Mbps of bandwidth as a download speed.

KNS Introduces Cellular IP Modem

February 8, 2017 - KNS, a worldwide designer, manufacturer, and integrator in the marine communications industry, is changing the way satellite antennas can be repaired or diagnosed, by the introduction of its Cellular IP Modem (CIM), so that operators can now monitor and control more than 100 antenna systems, using just a single PC. As soon as a vessel comes into 3G coverage, the CIM will automatically connect and this will allow operators to monitor and control the antennas using our proprietary software. This new modem supports all KNS's Supertrack Z and S-Series antennas. CIM supports multiple online triggers, including SMS, ring and data. Regardless of the antenna volume, only one static IP address is required, and it supports all versions of SCS Software. CMS is light, weighing just 3KG, and is made to fit the standard 19" IU rack size.

RSCC Plans to Expand its Equipment Line to Support TV and Broadband Data Transmission Services

February 9, 2017 - Russian satellite operator RSCC has conducted a series of meetings with equipment manufacturers from the Asia-Pacific region. Agreements have been reached on testing equipment in RSCC's Space Communication Centers. Among the other participants in the negotiations with RSCC was ST Electronics of Singapore, a leading manufacturer of solid-state transmitter power amplifiers. RSCC and ST Electronics have agreed to conduct testing of Agilis solid-state power amplifiers, which is scheduled to start at RSCC facilities in March 2017 and last up to six months. Based on the test results it will be decided on the feasibility of using Singapore-made amplifiers as part of satellite earth stations at RSCC Space Communication Centers to support television broadcasting in the C-band and broadband data transmission services in the Ka-band. At present, RSCC uses power amplifiers manufactured by an American CPI company. RSCC continues to explore advanced technical systems manufactured by Russian and international companies specializing in satellite communication equipment.

Comtech EF Data Releases VersaFEC-2 High-Performance LDPC and CDM-570A/L-IP Satellite Modems

February 9, 2017 - Comtech EF Data Corp. announced the release of the VersaFEC-2 High-Performance LDPC option board and version 1.5 for the CDM-570A/L-IP Satellite Modems. The CDM-570A entry-level point-to-point and point-to-multipoint solution provides the efficiency, intelligence and horsepower required to support the ever-increasing demands of enterprise, energy and maritime users. The VersaFEC-2 waveform is a highly evolved version of the industry-leading VersaFEC waveform. VersaFEC-2 was designed to provide optimal performance for latency sensitive applications that require the highest coding performance at the lowest latency. It features 74 modulation and coding combinations (ModCods) and a new family of constellations that allows better operation on non-linear satellite channels, outperforming the DVB-S2 standard. This new innovation provides two operational modes - Long-Block and Short-Block. VersaFEC-2 is available as an optional plug-in board for the CDM-570A/L-IP Satellite Modems. Presence of the VersaFEC-2 board enables VersaFEC-2 operation up to the modem's purchased data rate and symbol rate.

Gilat to Develop Electronically Steerable Antenna (ESA) for IFC for Airbus Technology Demonstrator

February 9, 2017 - Gilat Satellite Networks Ltd. announced a joint development project with Airbus for an ESA IFC antenna funded by CS2JU, as part of the European Commission's Horizon 2020 program. The fully embedded airborne antenna technology will be demonstrated in-flight on an Airbus Technology Demonstrator based on the C295 aircraft to support the Clean Sky 2 (CS2) objective for more efficient and greener transport. Gilat was selected to develop a Ka band ESA terminal based on its Phased Array Antenna (PAA) expertise. The antenna array will be embedded into the wing structure of the airframe including the amplification and radiating elements. The development will include the design, prototyping, manufacturing, and testing "on ground" and "in-flight" of the airborne terminal in collaboration with Airbus. Airbus is a partner in the CS2JU supporting technology development for the benefit of society to deliver more sustainable, greener aviation transportation. Gilat will develop the embedded antenna in coordination with Airbus to demonstrate a full satellite communication airborne link without impact on the aircraft performance. The Gilat ESA aero terminal will be installed into the Airbus Technology Demonstrator for in-flight validation tests planned to be carried out in Seville, Spain using a Ka-Satellite with EU coverage.

Cyprus Telecommunications Authority Selects Kratos' End-to-End Network Management Suite

February 10, 2017 - Kratos Defense & Security Solutions, Inc., a leading National Security Solutions provider, announced that the Cyprus Telecommunications Authority (Cyta), a major international telecommunications hub in the Eastern Mediterranean, has selected Kratos' End-to-End Network Management Suite of products to support its expanding satellite ground operations. The network management suite will help Cyta scale its international operations by automating network functions and managing customer services and Service Level Agreements (SLAs) more effectively across hybrid satellite and terrestrial networks. The suite will be deployed at the company's Makarios Teleport Station. The Makarios Teleport hosts a large number of earth stations providing links to numerous satellites included in Cyta's extensive telecommunications network that delivers a wide range of international telecommunications products, services and solutions. The network management upgrade is a key element of Cyta's enhancement program, which includes adding advanced services to support satellite operators in satellite control and monitoring operations.

Hughes Demonstrates SATCOM Capability for Rotary Aircraft HD Video Transmissions

February 13, 2017 - Hughes Network Systems, LLC has announced that its Defense and Intelligence Systems Division (DISD) recently demonstrated a 360-degree Beyond-Line-of-Sight (BLoS) SATCOM capability transmitting HD video through rotating blades on a NorthStar Aviation 407 Multi-Role Attack Helicopter. This new advancement in SATCOM technology integrates the Hughes HM200 airborne modem and two lightweight antennas mounted on top of the helicopter's weapons platforms via an easy Roll-on/Roll-off installation. As a new lightweight capability – 50% lighter than previous systems – it can be adapted to any helicopter platform given its low Size, Weight and Power (SWaP) properties, giving pilots more flexibility and uninterrupted transmission of full motion HD video over a full 360-degree range.

Inmarsat to Partner with Geoscience Australia for SBAS Testbed

February 13, 2017 - Inmarsat has signed an agreement with Geoscience Australia, an agency of the Commonwealth of Australia, to support a collaborative research project aimed at achieving enhanced positioning accuracy and integrity by augmenting signals from multiple Global Navigation Satellite Systems (GNSS) over the Australian continent. The research project, which is scheduled to run for two years, will see Inmarsat deploying the transponder on-board its L-band Asia Pacific (APAC) Region satellite, Inmarsat-4 F1 (I-4 F1), to provide the space component of the Second Generation Satellite-Based Augmentation System (SBAS) Testbed. GNSS

signals are critical tools for industries requiring exact precision and high confidence. For the first time anywhere in the world, this project will demonstrate how the use of signals from multiple GNSS, i.e. GPS and Galileo, and SBAS signals broadcast on dual frequencies (GPS L1 and L5), can achieve enhanced navigation performance in terms of user positioning integrity and accuracy. Inmarsat will join in the collaborative project Lockheed Martin who will provide systems integration expertise, along with the radio frequency uplink station and GMV (Spain), one of the leading suppliers of satellite ground segment equipment, who will be responsible for the provision of magicSBAS – a state-of-the-art, multi-constellation, operational SBAS – processors to generate the GNSS augmentation message.

Tototheo Group Commits over 1,500 Vessels to Fleet Xpress

February 14, 2017 - Satlink Satellite Communications Ltd, a member of The Tototheo Group, a world leader in satellite communication and technical services, has entered into a new agreement with Inmarsat to integrate Fleet Xpress into Satlink's existing service portfolio. Through the agreement, Satlink will bring more than 1,500 vessels to the Fleet Xpress service over a five-year period. Fleet Xpress, the Global Xpress maritime solution, sets a new standard for maritime global communications with crew welfare, regulatory and operational efficiency at its heart. The service, which is facilitating innovative 'connected ship' applications, delivers the highest levels of reliable, high-speed broadband connectivity and exceptional performance across all of the world's oceans, with continuous connectivity and guaranteed performance.

Comtech Awarded \$5.5 Million Follow-on Contract for High-power SATCOM TWTAs

February 15, 2017 - Comtech Telecommunications Corp. announced that during its second quarter of fiscal 2017, its Santa Clara, California-based subsidiary, Comtech Xicom Technology Inc., which is part of Comtech's Commercial Solutions segment, has received a follow-on contract for more than \$5.5 million from a U.S. military integrator for high-power satellite communication (SATCOM) traveling wave tube amplifiers (TWTAs). This is the second installment of a multi-year program for these power amplifiers used in tactical transportable SATCOM terminals.

SES and Gilat Join Forces to Make Connectivity at Sea More Accessible

February 15, 2017 - SES S.A. and Gilat Satellite Networks announced a strategic collaboration focused on delivering affordable connectivity to a broad range of small ships and vessels left underserved at sea in the Caribbean and beyond. Set for commercial launch in April 2017, the plug-and-play platform is the latest offering within the SES Maritime+ service, which was first introduced late last year. The new collaborative solution bundles Gilat's MarineRay 60P all-in-one Ku-band maritime VSAT (very small aperture terminal) antenna package with SES's tailored maritime capacity on both wide beam and upcoming high throughput satellite (HTS) capacity to help small yachts and ship operators break through barriers to entry. Until now, the cost of antennas, installation, satellite capacity, and fleet and network management has kept many small vessels out of the VSAT market and unable to access high-speed connectivity to link crews and to entertain passengers. The SES Maritime+ solution eliminates these constraints with affordable equipment, bandwidth, installation and network management pricing for operators of even the smallest of fishing boats and yachts. The collaborative solution, sold through a network of authorized dealers across the globe, will be available first to small yachts and vessels traversing Caribbean waters, followed by small craft operating in the Mediterranean Sea, North Sea, and ocean waters throughout Southeast Asia.

NSSLGlobal Launches the Industry's First Ku-band Beam to Extend VSAT Coverage

February 15, 2017 - NSSLGlobal announced another major upgrade to its VSAT network with the activation of a new beam which will extend Ku-Band coverage across the entire South Indian Ocean. Launched in response to specific market needs, the new beam significantly extends the reach of NSSLGlobal's VSAT network in an important international shipping route, providing its maritime customers with ever wider and more robust connectivity at sea. The new Ku-Band beam is available to NSSLGlobal customers from March 2017 and runs on Japanese satellite operator SKY Perfect JSAT's new JCSat 110A satellite launched in late 2016. Operated from Perth, Australia the beam covers the area from the west-coast of Australia to the waters around Mozambique and the Eastern coast of Africa. This will further extend NSSLGlobal's already industry-leading satellite coverage, improving the user experience for vessels sailing across the Atlantic Ocean, around Cape Point and on to South East Asia, Australia and India.

Marlink and PETSE Extend Partnership to Provide VSAT Services in Saudi Arabia

February 17, 2017 - Petroleum & Energy Services (PETSE) and Marlink have signed a new five-year agreement for supply of a second Terralink HUB communications service concept with associated satellite airtime. The new

agreement expands further the comprehensive range of VSAT communication services in the Kingdom of Saudi Arabia introduced through a similar deal signed in 2015, and will additionally support PETSE's ambition to establish dedicated M2M services in the region. A licensed VSAT services provider, Industrial Distributor and Oilfield Service Contractor in the Kingdom, PETSE will now have an even stronger presence as a full VSAT service provider, enabling high levels of IP connectivity with support from Marlink on the Terralink HUB platform.

KVH Introduces Affordable and Highly Reliable Navigation Solution for Light Military Vehicles

February 19, 2017 - KVH Industries, Inc. is introducing the TACNAV Light/GPS navigation solution. Based on KVH's successful line of tactical navigation systems, TACNAV Light/GPS features a newly designed sensor mast with embedded GPS, and utilizes KVH's new TACNAV Moving Map Display (MMD) and its proven Universal Multilingual Display (UMD). TACNAV Light/GPS is designed specifically to meet the requirements of light military vehicles used for such functions as troop transport and reconnaissance, where 100% situational awareness is vital. The system provides positioning accuracy within 5 meters CEP with valid GPS, and a dead reckon accuracy of 2-3% distance travelled without GPS.

CETel Upgrades and Prolongs its iDirect C-band Network

February 20, 2017 - CETel, German provider of global satellite, fiber and wireless enabled communications solutions, expanded its iDirect network over C-Band for Africa. After adding additional capacity CETel is utilizing now several transponders for their iDirect services via two C-band satellites covering all Africa.

EE Demonstrates Disaster Recovery Technology Using Avanti's Ka-band Satellite Connectivity

February 21, 2017 - Avanti Communications Group plc, a leading provider of satellite data communications services in Europe, the Middle East and Africa (EMEA), enables successful deployment of disaster recovery technology with leading UK Mobile Network Operator (MNO), EE. The deployment of the technology was demonstrated today, live at The Oval cricket ground in central London. The solution saw EE's patent-pending balloon air mast technology demonstrate how mobile coverage can be maintained in rural areas, during disaster recovery and for search and rescue, using Avanti's satellite connectivity. The MNO with the largest 4G coverage in the UK showed how mini mobile sites attached to a helium-powered balloon called a 'Helikite', can provide wide area 4G mobile coverage where permanent sites have been damaged or across areas where 4G coverage is not available. EE also unveiled Rapid Response Vehicles (RRV) as a vital capability to keeping networks running through essential maintenance and local site outages. With 100% coverage of the UK, Avanti's High Throughput Satellite (HTS) technology is able to provide a reliable and flexible Satellite Backhaul solution to around 1000 fixed and portable base stations across the UK, enabling connectivity nationwide.

Thailand's Mobile LTE Granted the Satellite Service Provider License

February 21, 2017 - Thai mobile broadband provider Mobile LTE Co. Ltd. has secured the nation's satellite service provider license. Receiving the Type Three Satellite Business License No.3 Kor/60/001 to conduct the business and provide the communications satellite services, with the license period of 15 years starting from 2017 Mobile LTE now becomes the 2nd satellite operator with satellite license business in Thailand. Mobile LTE Ltd. focuses on services providing using new technologies, which are different from the existing in the market and want to launch a satellite onto country's unused and reservation orbital slots as soon as possible as some slots will expire very soon. This will help utilizing the existing resources in another way for the benefit of the country in order to promote and support the expansion of communication satellite business to ASEAN and other countries.

Gilat Releases Ultra-Compact, High Throughput SATCOM Terminal for Unmanned Aircraft Systems (UAS)

February 22, 2017 - Gilat Satellite Networks Ltd. announced the commercial availability of an ultra-compact airborne SATCOM terminal for unmanned aircraft systems delivering exceptional throughput for its size. Tactical, long-endurance unmanned aircraft systems (UAS) are commonly used to gather and send intelligence, surveillance, and reconnaissance (ISR) information to ground stations in real time. Reliable, high-performance satellite communications are crucial for ensuring uninterrupted broadband connectivity in beyond line-of-sight (BLOS) missions. The newest in Gilat's field-proven family of unmanned aerial terminals, BlackRay 72Ka combines high performance and throughput with a minimal footprint. Weighing less than 5Kg. (11lbs.), the compact BlackRay 72Ka terminal is an ideal solution for even very small-unmanned aerial vehicles (UAVs).

Kymeta Achieves Significant Milestone in Delivering Terabyte Connectivity to the Car of the Future

February 22, 2017 - Kymeta, the company delivering the promise of global, mobile connectivity, announced that its 20 cm mTenna[®] satellite antenna subsystem module (ASM) for the consumer connected car industry, successfully connected to the Intelsat S.A. satellite constellation. The test showcased the Kymeta mTenna

technology for consumer vehicles could successfully connect to Intelsat's Epic^{NG} satellite network. The test also demonstrated that Kymeta mTenna technology can transmit and receive data with a single aperture, connect to the internet and access YouTube videos, and conduct a SkypeTM call, all within its first attempt. Currently, the only way to take advantage of High Throughput Satellites (HTS) is with a large, traditional satellite dish with moving parts. The test is the first step in making a connected car its most secure and connected at a global scale. This successful testing was conducted with Intelsat, the world's leading provider of satellite services, which has a partnership agreement with Kymeta to enable satellite connectivity for the auto industry.

Major Asian Mobile Operator Chooses NovelSat as Satellite Backhaul Modem Provider

February 23, 2017 - NovelSat, a world leader in satellite transmission technology, announced that one of Asia's largest mobile operators has selected NovelSat as the primary modem technology provider to support their satellite mobile backhaul network. The initial deal includes around 30 NovelSat NS3000 Professional High-Data Rate Satellite Modems, each running NovelSat NS3, the 3rd generation satellite transmission waveform from NovelSat, as well as IP acceleration and optimization technologies. The operator was seeking a solution to replace their existing E3 architecture for Ethernet IP transmission over mobile. The desired solution needed to offer the highest possible spectral efficiency without sacrificing link quality or reliability, and which would deliver the best ROI for a network that reaches beyond urban centers into numerous outlying remote locations. NovelSat NS3 and the various optimization, IP acceleration and redundancy technologies from NovelSat were key factors in the operator's decision.

Inmarsat and VT iDirect Partner on Next Generation DVB-S2X Technology for Global Xpress

February 23, 2017 - Inmarsat has announced a significant advance in the on-going development of its Global Xpress (GX) high-speed, global, mobile broadband platform. In conjunction with VT iDirect, Inmarsat's strategic technology partner for the GX platform, over-the-air tests of iDirect's next-generation DVB-S2X technology achieved a forward channel throughput rate of 330 Mbps over a live Inmarsat GX satellite in orbit. The successful tests were conducted in January 2017 and leveraged iDirect's next-generation iQ Series modem. GX entered global commercial service at the end of 2015 and has already been adopted by major private and public sector organizations across the world as their new standard for seamless, reliable broadband connectivity. Working together, Inmarsat and iDirect intend to gradually introduce these enhanced capabilities to the GX network from 2018-19; deploying the new iDirect technology for end-users across the aviation, maritime, government and enterprise sectors. The two partners are confident that Inmarsat's next generation of GX satellites, due to launch around the end of this decade, will achieve throughput rates in excess of 500 Mbps. As the new capabilities are introduced across the GX network, Inmarsat has confirmed that backward compatibility will be assured for existing users.

Gogo 2Ku Technology Hits New Performance Heights

February 23, 2017 - Gogo, a leading global provider of broadband connectivity products and services to aviation, has taken its 2Ku performance to the next level, exceeding speeds of 100 Mbps. This industry-leading performance was achieved on Gogo's test aircraft, the Jimmy Ray, using Gogo's proprietary 2Ku antenna, Gogo's new next generation modem and a high-throughput satellite. Gogo's new modem upgrades the performance of both its 2Ku and Ku global satellite services. The proprietary features of the new modem significantly increase throughput and reliability to and from the aircraft. The modem also will support access to streaming video through the internet and live television programming through Gogo's IPTV product – Gogo TV. The new modem will be installed beginning in the second half of 2017. Eventually, it will be installed on more than 1500 2Ku and 250 Ku aircraft across 13 leading airlines.

MDA to Acquire DigitalGlobe

February 24, 2017 - MacDonald, Dettwiler and Associates Ltd. (MDA), a global communications and information company providing technology solutions to commercial and government organizations worldwide, and DigitalGlobe, Inc., the global leader in Earth imagery and information about our changing planet, announced they have entered into a definitive merger agreement, pursuant to which MDA will acquire DigitalGlobe for US\$35.00 per share in a combination of cash and stock. The transaction values DigitalGlobe at an equity value of approximately C\$3.1 billion (US\$2.4 billion), and an enterprise value of C\$4.7 billion (US\$3.6 billion), including assumption of DigitalGlobe's C\$1.6 billion (US\$1.2 billion) in net debt. The transaction has been unanimously approved by the boards of directors of both companies, and is expected to close in the second half of 2017.

SpeedCast Becomes Inmarsat's First Partner to Offer Full Fleet Xpress Integration

February 27, 2017 - SpeedCast International is the first Inmarsat partner to integrate the software element of the Fleet Xpress Network Service Device (SoftNSD) into its Fleet Xpress offering. This allows third party application providers to develop and publish innovative, content-rich applications over Fleet Xpress, such as the real-time analysis of data, including engine monitoring, weather information and fuel consumption rates. These applications can deliver real benefits in operational efficiency, safety and compliance, IT security and crew welfare. The integration of the software element of the Fleet Xpress Network Service Device will also allow SpeedCast to build value added solutions and applications over SIGMA Gateway. SIGMA Gateway is a powerful, industrial-grade network management device designed for ships and remote sites, providing automated and efficient management of multiple WAN links and offering a scalable platform designed to evolve and enable business applications on-board. Last year SpeedCast and Inmarsat announced a strategic partnership to roll out Fleet Xpress to approximately 2,000 vessels over the next five years.

Spacecom's AMOS-7 Satellite Begins Operations at 4°W 'Hot-spot'

February 27, 2017 - Spacecom announced that the AMOS-7 communications satellite is now providing a wide range of television and data communication services from its 4°W 'hot-spot' orbital position. Co-located with AMOS-3, AMOS-7 is replacing the AMOS-2 satellite that is reaching the end of life after servicing customers for over 13 years. AMOS-7's 24 Ku-band transponders and four steerable beams are providing a multi-regional experience covering Europe, Middle East and parts of Africa thereby offering services to Spacecom's existing and new customers in Central and Eastern Europe, Africa and the Middle East. Amos-7 is the first addition to Spacecom's fleet since the Florida explosion in September 2016. It has been in orbit since 2014 and was obtained in an agreement with AsiaSat to utilize the Ku-band capacity on AsiaSat-8 at a cost of \$22 million a year for four years, with an option to extend for an additional year.

Global Xpress Type Approval for Paradigm's Swarm45 Terminal

February 27, 2017 - UK-based Paradigm's unique flat panel Swarm45 terminal can now add full worldwide coverage on Global Xpress (GX) to its impressive list of features; a list that includes it being the only GX VSAT terminal that can be carried as airline hand luggage. This means that the Swarm45's fast setup and pointing can be quickly replicated from one location to the next without ever needing to contact the service provider. The lightweight Swarm45 can be setup and operational in under 5 minutes delivering impressively high data rates for its antenna size. It is designed around the PIM (Paradigm Interface Module) which has an integrated modem and innovative audio and visual pointing aids. The BGAN-like pointing process has been developed by Paradigm to ensure quick deployment by users with minimal training. It provides a straightforward method of acquiring any one of the Global Xpress satellites without the extra bulk of motors and controllers.

Airways New Zealand and Aireon Agree to Cooperate on South Pacific Operational Validation

February 27, 2017 - Airways New Zealand, New Zealand's Air Navigation Service Provider (ANSP) and Aireon LLC announced that they have signed an agreement in principle to enter into an operational validation trial. This agreement will pave the way to a formal operational validation agreement allowing for the development of operational concepts for air traffic management in South Pacific airspace and long-range flow management procedures to major New Zealand destinations. These operational concepts will be based on the use of space-based Automatic Dependent Surveillance-Broadcast (ADS-B) data to leverage the efficiency and safety benefits of a global air traffic surveillance capability. Airways also plans to use Aireon data to determine the best configuration of planned terrestrial-based ADS-B installations, augmented with space-based ADS-B, to ensure the most cost-effective use of the designated infrastructure. Aireon's system will be operational in 2018, upon completion of the Iridium NEXT satellite constellation. The service will provide ANSPs with global air traffic surveillance and airlines with real-time flight tracking. It is expected to help reduce fuel costs, increase safety, and enable more efficient flight paths.

PT Universal Satelit Indonesia and Intersputnik Enter the Agreement in Using Frequencies at 103°E

February 28, 2017 - PT Universal Satelit Indonesia (UNISAT) and the Intersputnik entered into an agreement on cooperation in using frequencies at 103° East for a new telecommunications satellite to cover Indonesia and its neighboring regions. The agreement was signed in the presence of Indonesian government officials and the Russian Ambassador to Indonesia. Carrying transponders in planned C and Ku bands, the satellite is slated for launch in 2020.

Intelsat and OneWeb Announced Conditional Combination Agreement

February 28, 2017 - Intelsat and OneWeb announced that they have entered into a definitive combination agreement pursuant to which Intelsat and OneWeb will merge in a share-for-share transaction. Intelsat and SoftBank Group Corp. ("SoftBank") also entered into a definitive share purchase agreement pursuant to which SoftBank will invest \$1.7 billion in newly issued common and preferred shares of the combined company. Both the merger and the SoftBank investment are subject to, among other conditions, successful completion of debt exchange offers to certain existing Intelsat bondholders as well as receipt of certain regulatory approvals. The complementary strengths of Intelsat and OneWeb, combined with the investment by SoftBank, are intended to create a financially stronger company with the flexibility to aggressively pursue new growth opportunities resulting from the explosion in demand for broadband connectivity for people and devices everywhere.

Newtec Expands HTS and DVB-S2X Wideband Product Portfolio

February 28, 2017 - Newtec has unveiled a number of new DVB-S2X wideband products for use in High Throughput Satellite (HTS) and global networks. The wideband DVB-S2X and scalable Newtec Dialog[®] XIF Hubs provide high throughput, high density and carrier grade solutions, as part of the Newtec Dialog multiservice platform (Release 2.1). Each hub model offers flexibility and modularity, facilitating the growth of networks and addition of services by allowing customers to start with an initial investment and then extend their platform as they grow. Newtec has also completed its DVB-S2X wideband modem portfolio with the launch of the MDM2210 and the MDM3310, which join the earlier launched MDM5000 modem. The high performance and easy-to-use Newtec modems address the needs of end-customers in vertical market segments such as consumer, enterprise, cellular backhaul, government and mobility. Thanks to the wideband DVB-S2X, customers can now fully benefit from the unprecedented efficiencies and throughputs enabled by HTS spot beam satellites.

Comtech Showcases Location and Messaging Solutions for the Mobile and IoT Ecosystems

February 28, 2017 - Comtech Telecommunications Corp., a leader in secure and highly reliable communication technology, announced that the company will be showcasing its extensive suite of location, messaging and other secure wireless technology solutions at Mobile World Congress 2017 in Barcelona. Recognized by ABI Research as the global leader in precise location-based services (LBS) infrastructure, Comtech processes more than 9.5 billion LBS transactions monthly. In addition, Comtech is a global leader in messaging, processing more than 2 quadrillion messages to-date.

NSSLGlobal Selects Telesat's Telstar 12 VANTAGE

February 28, 2017 - NSSLGlobal and Telesat announced a significant expansion in their relationship which sees NSSLGlobal contract a satellite transponder on Telesat's Telstar 12 VANTAGE satellite. The additional capacity will allow NSSLGlobal to further enhance its VSAT IP@SEA, Cruise-IP and Broad-IP services, enabling the provision of even more robust mobile broadband availability to passenger and merchant vessels navigating the African, Mediterranean and Northern European waterways. The new agreement adds to the capacity NSSLGlobal already utilizes on Telesat's Telstar 11N satellite at 37.5 degrees West which NSSLGlobal uses to provide internet connectivity to the North Atlantic ocean, the US and Africa. The high throughput Telstar 12 VANTAGE, operates at 15 degrees West, providing superior coverage of Europe and Africa while bringing new capacity to high growth mobility markets in the Mediterranean and North Sea. The expanded coverage over Africa includes Eastern and sub-Saharan countries as well as enhanced coverage into the Indian Ocean, where azimuth diversity is important for vessels that rely on satellite communications. Whilst the land coverage across Africa will help provide as an alternative to the T-11N Africa beam if customers require a fallback.

BROADCASTING

SES Continues to Lead HDTV Development

February 1, 2017 - SES S.A. continues to lead High Definition TV (HDTV) development representing the largest HD and Ultra HD (UHD) platform. In 2016, the number of HD channels on the SES fleet grew by 7% to 2,495 channels. Today, 33% of all the 7,538 channels on the SES fleet are in HD, with SES carrying 27% of all HD channels globally. In addition, over 60% of all channels on SES's fleet are now broadcast in the MPEG-4 compression standard. The on-going trend of the increasing HDTV penetration in Europe was the key driver of SES's overall HDTV development, where the number of HDTV channels grew by 14% to more than 750 channels. This performance was complemented by the growth in HDTV across the Americas. SES is also continuing to maintain its strong momentum in the introduction of commercial agreements now secured for 21 UHD channels, compared with eight channels a year ago. Today, SES is broadcasting nearly 50% of all the UHD channels

carried over satellite globally. In 2016, the acquisition of RR Media and the subsequent creation of MX1 through a merger with SES Platform Services supported SES's unrivalled market traction on new HDTV and UHD channels across Europe and North America, as well as the further expansion of SES's Video business across fast-growing emerging markets.

Israel Premier Football League Chooses MX1 360 Platform

February 1, 2017 - SES S.A. announced that MX1, a wholly-owned subsidiary of SES, is providing the Israel Premier Football League (IPFL) with its end-to-end MX1 360 service for live editing of sports content. MX1 360 is providing the IPFL with a sophisticated, yet simple-to-use, cloud-based media asset management solution, with fast turnaround for live highlights production of multiple weekend games. All content, highlights and metadata are archived and can be repurposed at a later point to enable additional monetization opportunities. This makes it easy for the IPFL to deliver high-level highlights of its football matches with data and statistical information, which increases viewer engagement.

Barco Silex Demonstrates Viper OEM Solution for Real-time 4K Video Networking

February 2, 2017 - Barco Silex, a leading provider of video compression technology and OEM solutions in the Pro A/V market, will demonstrate its latest Viper solution to transport HDMI signals over IP network at ISE 2017 in Amsterdam. The Viper solution consists of encoder and decoder boards that are interconnected by standard Ethernet equipment in order to build a distributed Audio/Video network. The Viper OEM solution targets integrators and equipment manufacturers willing to develop their own HDMI over IP products with reduced investment and time-to-market. The Viper networking and transport protocols are fully based on open standards, including the VC-2 HQ codec used to compress the video stream. It brings additional flexibility, for example, to capture or replay the stream with a software installation running on a server. The Viper boards transport HDMI signals up to 4K/UHD resolution with embedded audio over a single 1 Gb Ethernet cable. The latency is extremely low and totally imperceptible. The networking capabilities of Viper are very complete with the support of unicast/multicast AV streaming, encryption, forward-error-correction, and remote configuration and upgrade. Additional analog/digital audio interfaces are also supported.

AsiaSat Extends Occasional Use Service Agreement with Globecast

February 7, 2017 - Asia Satellite Telecommunications Co. Ltd. (AsiaSat) has extended an occasional use (OU) service agreement with Globecast, the global solutions provider for media. As a longtime customer of AsiaSat, Globecast's affiliates in Asia, Europe and from around the world use the comprehensive C and Ku-band capacity across AsiaSat's fleet for the distribution of news content and sports events for their clients who are major international broadcast networks and premium sports right holders. AsiaSat 5's strong penetration into the Asian TV market and wide global C-band footprint make it the most popular satellite for OU service in the region, serving the entire Asia-Pacific in a single beam. The service provides Globecast unmatched coverage of live sports including the AFC soccer events, golf tournaments, Asian Beach Games, Baseball World Cup as well as broadcasting live news events such as the ASEAN summit. AsiaSat has maintained a close partnership with Globecast for over 15 years, with AsiaSat 5 providing a primarily HD delivery of OU service to its customers, alongside transmission solutions from Globecast such as its one-stop service that offers global coverage for SNG and turnaround capabilities for TV distribution service.

Es'hailSat and Total TR Medya Sign Framework Service Agreement

February 13, 2017 - Es'hailSat, the Qatar Satellite Company, and Total TR Medya announced the signing of framework service agreement to market and sell Es'hailSat products and services. Under the terms of the agreement Total TR Medya has exclusive rights to re-sell Es'hailSat's products and services to end users in the Republic of Turkey. Operating from the MENA orbital hotspot of 25.5° E / 26° E, covering key consumer markets in GCC and North Africa, Es'hailSat's high powered satellites provide the key infrastructure to media networks and broadcasters to distribute TV channels directly to consumers via small satellite dish. Customers are able to leverage on Es'hailSat's satellites and teleport infrastructures to provide services such as linear TV, video on demand, high definition TV and 4K TV among others.

EUROMEDIA Launches Ultra HD Project for CANAL+

February 13, 2017 - EUROMEDIA covered the PSG/AS Monaco football match in full UHD for the first time on Sunday 29 January. With resolution four times higher than HD, shooting 4K is quite unique both in terms of live coverage as well as slow motion replays. After exhaustive testing to determine the optimal technical and aesthetic solutions on the ground as well as inside the OB truck, EUROMEDIA deployed fifteen native 4K cameras (including two Superloupe™ 4k camera systems). The quality and sharpness of the 4K ultra slow-motion replays

obtained with the Superloupes™ from DVS, a EUROMEDIA subsidiary, offer an unprecedented advantage for content creation. Car 21 is used for 4k production but is also able to deliver in HD. The OB truck underwent a three-week overhaul to install a complex workflow that is four times more powerful and can rapidly shift from shooting in HD to UHD. From now on, EUROMEDIA will produce all premium CANAL+ Sunday evening matches in 4K format.

Arabsat and ONT Launch a Tunisian Platform on Badr-4 at 26°E Hot Spot

February 15, 2017 - Arabsat and ONT announced the signing an agreement to launch a Tunisian broadcast platform on Arabsat Badr-4 at 26°E. This platform operation will start by end of Q2, 2017 and will allow Tunisian and regional broadcasters to have a direct access from Tunis to the growing 26°E neighborhood with a coverage encompassing MENA and Western Europe. Rohde and Schwartz was chosen for the installation and commissioning of the platform with the most up to date technical specifications.

Eutelsat Hits New Milestone of 1,000 High Definition Channels

February 20, 2017 - High Definition TV continues to gain ground across the broadcast satellites operated by Eutelsat Communications with the 240 HD channels launched in 2016 equaling the total number launched during the previous two years. The symbolic landmark of 1,000 channels was crossed this month with the launch at Eutelsat's HOTBIRD neighbourhood of CGTN HD, the news and current affairs channel of China's CCTV media organization, marking its first foray into HDTV in Europe. Eutelsat's key video neighbourhoods all saw HD growth in 2016, with three distinguished for exclusive content and market leadership.

Three SES Orbital Positions Selected to Reach Millions of Viewers in Europe and Sub-Saharan Africa

February 21, 2017 - SES S.A. announced that TRT World is expanding its global distribution with global media solutions provider Globecast on the SES fleet. The international Turkish news platform, TRT World, started broadcasting in January from ASTRA 19.2 degrees East, ASTRA 28.2 degrees East, and SES-5 at 5 degrees East. These orbital positions were selected to reach viewers in continental Europe, UK and Sub-Saharan Africa. As part of a global program and a multi-year agreement with TRT World, Globecast is extending satellite distribution of the channel around the world. Globecast is providing the technical broadcast solutions needed to achieve this expanded global delivery including worldwide connectivity and uplink distribution services using its unique reach and access to 10 satellites. TRT World is owned by Turkish national public broadcaster TRT and is Turkey's first English language international news platform, providing news coverage in English 24/7, from Istanbul.

SPI Signs Deal with Eutelsat to Pursue International Expansion across the Americas

February 22, 2017 - SPI International/FILMBOX Channels Group, a rapidly-expanding global media company, has signed a multi-year multi-satellite agreement with Eutelsat Americas, a subsidiary of Eutelsat Communications to distribute ten HD channels and one Ultra HD channel to homes across the Americas. Starting on 1 March, SPI International will leverage two Eutelsat satellites to take its channels to a broad audience across the region. EUTELSAT 113 West A will be used to distribute channels in the United States and Spanish-speaking Latin America, while the premium reach of the new EUTELSAT 65 West A satellite will enable SPI to serve regionalised content to operators in Brazil. Play-out and uplink services along with the technical management of the platform will be provided by United Teleports in Miami. SPI's offer will feature many of its reference channels, including DocuBox HD, 360Tunebox HD, FashionBox HD, Fast&FunBox HD, FightBox HD, Filmbox Art House, Gametoon and NatureVision TV. SPI will also leverage its competitive strength as one of the biggest aggregators of native Ultra HD content to offer FunBox UHD, marking the launch of one of the first Ultra HD channels in Latin America.

bobbles Delivers India's Most Popular Entertainment to Expats

February 22, 2017 - bubbles media GmbH has announced the launch of Europe's most attractive package of entertainment for Indian viewers on bobbles.tv. bobbles.tv is the new multiculture satellite and OTT entertainment service for international expat communities in mainland Europe. Launching today, bobbles.tv delivers 16 channels of entertainment in Hindi and English including Bollywood blockbuster-packed B4U Movies, B4U Music, StarGOLD, Sony MAX and ZOOM. Offering NDTV India, NDTV 24x7, Times Now and Aaj Tak, bobbles.tv brings India's most watched news channels to viewers in mainland Europe. Viacom18's COLORS, StarPlus, NDTV Good Times, NDTV Spice, Sony Entertainment Television (SET), Sony SAB, Life OK and RISHTY Europe deliver popular general entertainment, comedy, drama, lifestyle, reality TV and made-for-TV movies. Launched in August 2016, bobbles.tv breaks new ground in viewer choice and service usability. bobbles.tv is available in

Europe via ASTRA satellite at 19.2 degrees East. Supported by broadcast services leader MX1, it can also be enjoyed via OTT for online viewing, via connected TV or mobile devices.

Switzerland's SRG SSR Renews Long-term Commitment to Eutelsat HOTBIRD Position for HD Channels

February 23, 2017 - Eutelsat Communications announced that SRG SSR, Switzerland's public TV and radio broadcaster, has confirmed its long-term commitment to the HOT BIRD neighbourhood with the multi-year renewal of one transponder that complements a second transponder already booked on a long-term basis. SRG SSR occupies the two HOTBIRD transponders to broadcast seven channels (RTS Un, RTS Deux, SRF 1, SRF zwei, SRF info, RSI LA 1, RSI LA 2) exclusively in HD quality to Swiss homes beyond range of quality terrestrial reception and for Swiss citizens living abroad. The capacity is also used for Hbb TV services and 26 public service radio stations. The upgrade to an all-HD satellite offer at the HOTBIRD neighbourhood was completed in February 2016 with a focus on delivering high signal quality.

Frontier Communications Joins Milestone Ultra HD Trials with SES

February 27, 2017 - SES S.A. announced Frontier Communications Corporation has begun testing 4K Ultra HD content delivery using SES's fully-managed Ultra HD distribution platform. Frontier is the latest multichannel video programming distributor (MVPD) to join SES's milestone trials aimed at accelerating Ultra HD delivery to homes across North America. SES has a growing number of cable and television system operators currently evaluating the satellite-based Ultra HD solution in an effort to provide the Ultra HD programming to their subscribers this year. SES's managed Ultra HD platform is delivered over dedicated satellite bandwidth, which provides a much higher quality viewer experience compared to current Internet-delivered 4K offerings susceptible to bottlenecks, buffering and network congestion. Currently home to nine linear Ultra HD channels, the platform provides the largest bundle of Ultra HD programming in North America.

Thaicom Selects V-Nova PERSEUS to Showcase UHD Premium Sports over Satellite

February 28, 2017 - Thaicom PLC and V-Nova Ltd., a leading provider of video compression solutions, announced that they will show UHD distribution of premium sports over satellite at a breakthrough low data rate to enable operators to offer cost effective premium live sports services in Ultra HD. The solution will be part of a workshop on "4K/8K TV broadcasting and production equipment" organized by Office of The National Broadcasting and Telecommunications Commission (NBTC) and Ministry of Internal Affairs and Communications (MIC) on February 28 in Bangkok. The demonstration showcases V-Nova PERSEUS™ video decoded on a COTS computer to display the quality of UHDp50 footage of football content delivered within the tight constraints of satellite bandwidth. This is also a step towards an integrated workflow for UHD content transiting over the Thaicom satellite infrastructure in order to offer the best quality content in real-time to consumers, regardless of their location.

SMV Presents the First FreeView Satellite TV Platform

February 28, 2017 - PT Sarana Media Vision (SMV) announced the launch of its premiere nationwide Free-to-View DTH satellite television service called "SMV FreeSat TV" in Indonesia. The new platform is available across all of Indonesia via the ABS satellites covering Indonesia. SMV FreeSat TV will be free-to-view and will initially feature over 60 domestic and international channels with plans to expand to over 100 channels in the coming months. With a diverse genre of programming including entertainment, kids, movies, music, religion, news, ethnic and educational content, this service will appeal to every member of the family.

Six More US Cable Operators Join Expanding SES Ultra HD Trials

February 28, 2017 - SES has announced that six more U.S. cable operators have joined its successful Ultra HD trials, while some of the first cable providers to participate are nearing the historic launch of consumer Ultra HD packages across the country. A new wave of Ultra HD trial agreements have been signed with cable operators from coast to coast, including Aureon in Iowa, GVTC Communications in Texas, Highlands Cable Group in North Carolina, KPU Telecommunications in Alaska, Service Electric in Pennsylvania and New Jersey, and Shrewsbury Community Cable in Massachusetts. Over 15 cable operators and multichannel video programming distributors (MVPDs), with a combined audience of over seven million subscribers, are currently testing 4K content delivery across SES's fully-managed, pre-packaged Ultra HD platform. The platform offers the largest Ultra HD programming lineup, together with satellite distribution services and reception gear.

LAUNCH / SPACE

Boeing, U.S. Air Force Extend Partnership to Sustain GPS Constellations

February 2, 2017 - Boeing and the U.S. Air Force recently signed a Global Positioning System (GPS) sustainment agreement that will ensure the navigation capabilities relied upon by millions of military and commercial users remain robust for years to come. Under the agreement, Boeing will support GPS IIA and IIF satellites currently on orbit for the next five years. Boeing, which has been the prime GPS contractor for more than 40 years, is now part of the Air Force effort that may lead to the next generation of GPS satellites. Collectively, Boeing GPS satellites have accrued more than 550 years of on-orbit operation. In March 2016, the company delivered its 50th GPS satellite on orbit to the Air Force and has built more than two-thirds of the GPS satellites that have entered service since 1978.

MDA Signs Extensions to Long-term RADARSAT-2 Information Supply Contracts

February 2, 2017 - MacDonald, Dettwiler and Associates Ltd. (MDA), a global communications and information company, announced that it has signed three contract amendments with international customers to provide information collected by the RADARSAT-2 satellite. The contracts total approximately CA\$8 million. The RADARSAT-2 satellite has global high-resolution surveillance capabilities that include a large collection capacity and high accuracy data acquisition. The satellite acquires data regardless of light or weather condition, and provides frequent re-visit imaging options. The information provided is ideally suited to markets that require either broad-area monitoring or targeted surveillance, such as defence and security, land use management, agriculture, disaster management, and natural resources.

JMA Releases First Images from Harris Corporation-Built Imager Onboard New Weather Satellite

February 6, 2017 - The Japan Meteorological Agency (JMA) released the first images taken by Harris Corporation's Advanced Himawari Imager (AHI) onboard Himawari-9, the country's newest weather satellite. The imager captured detailed clouds over Japan and the Pacific Ocean. The Harris-built AHI significantly improves the quality, speed and accuracy of information provided to meteorologists with its higher resolution, 11 additional spectral bands and more rapid scans than older imagers. The AHI captures images of Japan 12 times faster and the full Earth three times faster than older systems. These features generate many more weather products and much improved video capability compared with older imagers. Himawari-9 was built by Mitsubishi Electric Corporation and launched Nov. 2, 2016. The AHI leverages similar technology used for the Harris-built Advanced Baseline Imager onboard the Geostationary Operational Environmental Satellite-16 (GOES-16) weather satellite, launched Nov. 19, 2016, by NASA and the U.S. National Oceanic and Atmospheric Administration.

RSCC's Master Schedule to Build Express-80 and Express-103 Spacecraft Approved

February 7, 2017 - In the office of RSCC, a meeting was held on 6 February 2017, chaired by Igor Chursin, deputy head of Rossvyaz. The meeting was attended by Yuri Vlasov, Deputy Director - General of Roscosmos State Corporation and General Director of JSC United Rocket and Space Corporation (URSC), Yuri Prokhorov, Director General of Russian Satellite Communications Company (RSCC), and Nikolai Testodov, General Director of JSC Reshetnev Information Satellite Systems (ISS). The agenda included building, testing and commissioning of advanced Express-80 and Express-103 communications and broadcasting satellites. The project to build Express-80 and Express-103 spacecraft began in late December 2016 after coming into force of a contract between RSCC and ISS. The project is specific in that for the first in the Russian space industry a dual launch of intermediate-class geostationary communications satellites is contemplated. Also, to translate the satellites into their assigned slots, a delta injection effort will be implemented using the satellites' own onboard electric rocket engines. The delta injection pattern is due to the satellite total mass constraints: the Proton launch vehicle with the Breeze-M upper stage is unable to provide direct insertion of the two satellites directly into geostationary orbit. Delta injection has been successfully tested on single launches of the Express-AM5 and Express-AM6 spacecraft, built by ISS on the orders of RSCC. The launch of the Express-80 and Express-103 satellites is planned for the 3Q of 2019. Due to the time needed for the delta injection and flight testing, the satellites are scheduled to be commissioned in late 1Q of 2020.

Signing of Industrial Contract for Orion Spacecraft's First Astronaut Mission

February 9, 2017 - A European Service Module will power NASA's Orion spacecraft beyond the Moon and back in 2018. ESA and Airbus Defence and Space have agreed with NASA to build a second module for a second mission with astronauts set for launch as early as 2021. Humans are going to leave low orbit for the first time since 1972 and European hardware will provide propulsion, electrical power, water, thermal control and atmosphere for the crew of up to four. The agreement is a further extension of ESA and NASA's collaboration in

human spaceflight continuing from the International Space Station and a strong recognition of Airbus and ESA expertise. The European Space Agency (ESA) will sign the contract with Airbus Defence and Space to build the second European Service Module at the integration hall in Bremen, Germany, where the first module is already being built.

SSL Selected to Partner with DARPA to Develop Satellite Servicing Business

February 9, 2017 - Space Systems Loral (SSL) has been selected by the U.S. Defense Advanced Research Projects Agency (DARPA) to develop the capability to service and maintain spacecraft and other infrastructure in the geostationary arc. DARPA's Robotic Servicing of Geosynchronous Satellites (RSGS) program is expected to be the foundation of a new business for SSL that will serve both commercial and government operators with repair, upgrade, relocation, and refueling of on-orbit assets. Based on its industry leading platform, SSL is expected to provide a spacecraft to carry the robotic servicing payload and will manage integration and operation of the spacecraft. DARPA will contribute the robotics technology, expertise, and a government-provided launch. MDA will add a refueling capability to the RSGS program.

Geoscience Australia and Lockheed Martin Begin Research Project for Satellite-Based Augmentation System (SBAS)

February 13, 2017 - Global Navigation Satellite System (GNSS) signals are critical tools for industries requiring exact precision and high confidence. Now, Geoscience Australia, an agency of the Commonwealth of Australia, and Lockheed Martin have entered into a collaborative research project to show how augmenting signals from multiple GNSS constellations can enhance positioning, navigation, and timing for a range of applications. This innovative research project aims to demonstrate how a second-generation Satellite-Based Augmentation System (SBAS) testbed can – for the first time – use signals from both the Global Positioning System (GPS) and the Galileo constellation, and dual frequencies, to achieve even greater GNSS integrity and accuracy. Over two years, the testbed will validate applications in nine industry sectors: agriculture, aviation, construction, maritime, mining, rail, road, spatial, and utilities. Partners in this collaborative research project include the government of Australia. Lockheed Martin will provide systems integration expertise in addition to the Uralla radio frequency uplink. GMV-Spain will provide their 'magicGNSS' processors. Inmarsat will provide the navigation payload hosted on the 4F1 geostationary satellite. The Australia and New Zealand Cooperative Research Centre for Spatial Information will coordinate the demonstrator projects that test the SBAS infrastructure.

Orbital ATK Awarded Integration Contract for Multipurpose Satellite by U.S. Air Force

February 13, 2017 - Orbital ATK has been awarded a contract by the U.S. Air Force Space and Missiles Systems Center to provide payload integration and support services for Space Test Program Satellite 6 (STPSat-6). The multipurpose satellite will operationally demonstrate advanced communication capabilities, collect space weather data and support nuclear detonation detection in the Earth's atmosphere or in near space. STPSat-6 is the primary payload on the STP-3 mission which is set to launch no earlier than June 2019. STPSat-6 will be built on an Orbital ATK satellite bus that will be modified to fit mission requirements. Under the contract, Orbital ATK will integrate and test the spacecraft, deliver operations procedures, and support launch and on-orbit check-out. The satellite will carry nine payloads from the Department of Defense, National Nuclear Security Administration and NASA.

China's Plans Launch of First Cargo Spacecraft in April

February 13, 2017 - China plans to launch its first cargo spacecraft in April, state media reported, taking a step toward its goal of establishing a permanently manned space station by 2022. The Tianzhou-1 cargo resupply spacecraft will be carried into space by a Long March-7 Y2 rocket launched from Wenchang Satellite Launch Center in south China's island province of Hainan. The Tianzhou-1 is designed to dock with the Tiangong 2 space laboratory, or "Heavenly Palace 2", which China used to carry out its longest ever manned space mission last October, sending two astronauts into space for a month aboard the laboratory. The spacecraft can carry 6 tonnes of goods, 2 tonnes of fuel and can fly unmanned for three months.

Arianespace Orbits Two Digital HDTV Satellites, SKY Brasil-1 and Telkom 3S, on Ariane 5

February 14, 2017 - Arianespace has successfully launched two satellites: SKY Brasil-1 for AT&T/DIRECTV; and Telkom 3S for Telkom Indonesia as part of a turnkey contract with Thales Alenia Space. SKY Brasil-1 is a high-definition direct-to-home (DTH) TV broadcast satellite, covering Brazil and the North Atlantic Ocean. Telkom 3S is the third satellite to be launched by Arianespace for Telkom Indonesia, this time as part of a turnkey contract with Thales Alenia Space. The previous satellites for this operator, Telkom 1 and Telkom 2, were launched by Arianespace in 1999 and 2005, respectively. All Telkom Indonesia satellites now in operation were orbited by

Arianespace. Telkom Indonesia is an Indonesian state-owned company that supplies telecommunications, information, media and entertainment services (TIMES) to millions of customers throughout the Indonesian archipelago. Telkom 3S will provide high-definition television (HDTV) broadcast services, as well as mobile communications and Internet applications, with a coverage zone spanning Indonesia, Southeast Asia and a portion of Malaysia.

Telkom 3S Communication Satellite Built by Thales Alenia Space Successfully Launched

February 14, 2017 - The Telkom 3S telecommunications satellite built by Thales Alenia Space for Indonesia has been successfully launched from the Kourou launch pad in French Guyana by an Ariane 5 rocket. In the frame of a turnkey contract for the Indonesian operator Telkom Indonesia, Thales Alenia Space is responsible of the design, construction, testing and in-orbit delivery of the satellite. It is also in charge of the launch and early orbital positioning phase (LEOP) and in-orbit tests (IOT). In addition, Thales Alenia Space will supply control center components and will train a team of engineers on site. Located at 118° East, Telkom-3S will increase Telkom Indonesia C-band capacity and will also offer High Definition Television and remote GSM internet services in Ku-band across Indonesia, Southeast Asia and part of Malaysia. Telkom-3S is based on the Thales Alenia Space Spacebus 4000 family with a 6.5 kW payload fitted by 24 C-band transponders, 8 extended C-band transponders and 10 Ku-band transponders. With a launch mass of 3,550 kg at liftoff, he is designed for an expected lifetime of more than 16 years.

Intelsat Announces Successful Launch of Intelsat 32e

February 14, 2017 - Intelsat S.A. announced the successful launch of the Intelsat 32e satellite aboard an Ariane 5 launch vehicle from French Guiana. Intelsat 32e is designed to overlay certain beams of Intelsat 29e, the company's first Intelsat Epic^{NG} spacecraft, increasing the throughput available in the highly-trafficked Caribbean and North Atlantic routes and providing resiliency for mobility network service providers servicing those shipping and air routes. The satellite is located at 317° East.

Thales Alenia Space Built Telecom Satellites Ready at Europe's Spaceport

February 14, 2017 - Brazil's SGDC geostationary defense and secure communications satellite and South Korea's Koreasat 7 telecommunications satellite, both built by Thales Alenia Space, have arrived at the Guiana Space Center, where they will be lofted in a dual launch on March 21 by Ariane 5. The SGDC satellite is being launched for the customer Visiona (a joint company between Embraer and Telebras), and is designed to meet two main objectives: set up secure satellite communications for the Brazilian government and armed forces; and contribute to the National Broadband Plan, led by the operator Telebras and designed to reduce the digital divide in the country. The satellite will weight 5,700 kg at launch and will be positioned at 75° West. Koreasat 7 will be operated by the Korean satellite services company KTSAT, a KT Corporation company. The satellite will weigh 3,680 kg at launch, and its payload is rated at about 6 kW of power. Koreasat-7 will be positioned at 116° East. Along with sister satellite Koreasat 5A, it will provide Internet access, multimedia, broadcast and fixed communications services across South Korea, the Philippines, Indonesia, India, Japan, mainland Southeast Asia and the Middle East.

Hughes Begins Final Testing of World's Highest Capacity Broadband Satellite

February 15, 2017 - Hughes Network Systems, LLC (HUGHES) announced the successful completion of in-orbit testing and handover of EchoStar XIX from Space Systems Loral (SSL), manufacturers of this next-generation, Ka-band high-throughput satellite. Placed into geostationary orbit at 22,236 miles (35,786 kilometers) above the earth, the world's highest capacity broadband satellite was successfully launched on a United Launch Alliance Atlas V from the Kennedy Space Center at Cape Canaveral, Florida on December 18, 2016, and extensive in-orbit testing was completed in an extremely efficient manner. Designed with Hughes JUPITER™ System technology, EchoStar XIX is a Ka-band, high-throughput satellite with 138 beams covering the continental United States, Alaska, Mexico and parts of Canada and Central America. It will power HughesNet Gen5, the next generation of high-speed satellite Internet service in the U.S., delivering more speed, more data, and more advanced features to consumers and small businesses no matter the location. Hughes expects EchoStar XIX to be placed into service at the end of the first quarter of 2017

Iridium Announces Target Date for Second Launch of Iridium NEXT

February 15, 2017 - Iridium Communications Inc. announced it has received a targeted launch date of mid-June for the second mission of ten Iridium NEXT satellites. Originally anticipated for mid-April of 2017, the date has shifted due to a backlog in SpaceX's launch manifest as a result of last year's September 1st anomaly. This second launch will deliver another ten Iridium NEXT satellites to low-Earth-orbit (LEO) on a SpaceX Falcon 9

rocket. SpaceX is targeting six subsequent Iridium NEXT launches approximately every two months thereafter. This announcement comes as Iridium has successfully connected the first Iridium NEXT satellite via its crosslinks into its global LEO constellation. The new satellite is expected to begin providing service to Iridium customers in the coming days. This marks a major milestone for the Iridium NEXT program as the testing and validation phase is ahead of schedule and the satellites are working well.

ISRO's PSLV-C37 Successfully Launches 104 Satellites in a Single Flight

February 15, 2017 - In its thirty ninth flight (PSLV-C37), ISRO's Polar Satellite Launch Vehicle successfully launched the 714 kg Cartosat-2 Series Satellite along with 103 co-passenger satellites from Satish Dhawan Space Centre SHAR, Sriharikota. This is the thirty eighth consecutively successful mission of PSLV. The total weight of all the 104 satellites carried on-board PSLV-C37 was 1378 kg. After a flight of 16 minutes 48 seconds, the satellites achieved a polar Sun Synchronous Orbit of 506 km inclined at an angle of 97.46 degree to the equator (very close to the intended orbit) and in the succeeding 12 minutes, all the 104 satellites successfully separated from the PSLV fourth stage in a predetermined sequence beginning with Cartosat-2 series satellite, followed by INS-1 and INS-2. Of the 103 co-passenger satellites carried by PSLV-C37, two – ISRO Nano Satellite-1 (INS-1) weighing 8.4 kg and INS-2 weighing 9.7 kg – are technology demonstration satellites from India. The remaining 101 co-passenger satellites carried were international customer satellites from USA (96), The Netherlands (1), Switzerland (1), Israel (1), Kazakhstan (1) and UAE (1).

ISRO Successfully Tests Cryogenic Stage for Flight Duration

February 18, 2017 - The Indian Space Research Organisation (ISRO) successfully tested its indigenously developed Cryogenic Upper Stage (CUS) for GSLV MkIII on February 17, 2017. The cryogenic stage designated as C25 was tested for a flight duration of 640 seconds at ISRO Propulsion Complex (IPRC) in Mahendragiri. C25 Stage had earlier been tested successfully for 50 seconds on January 25, 2017 to validate all the systems. Prior to Stage development hot tests, three CE20 engines were realized and two engines were subjected to qualification tests in sea level conditions. This included 800 seconds duration hot test and the third engine identified for flight was tested in high altitude conditions for duration of 25 seconds. This Stage test is a significant milestone as it is the last in series of engine and stage development hot tests before the first development flight of GSLV MkIII.

Successful Launch of the NASA SAGE III Instrument with the On-board Hexapod Pointing System Produced by Thales Alenia Space on behalf of ESA

February 19, 2017 - The NSAA SAGE (Stratospheric Aerosol and Gas Experiment) observation instrument that uses the Hexapod Pointing System produced by Thales Alenia Space on behalf of the European Space Agency (ESA) was launched from the Kennedy Space Center launch pad by means of the Falcon 9 launcher with the Space X Dragon capsule. SAGE III is a NASA instrument produced as part of the EOS (Earth Observing System) programme to measure the components of the Earth's atmosphere, such as pressurised and ozone gas, ranging between the troposphere and the stratosphere. Moreover, SAGE III provides overall measurements of the temperature in the stratosphere, reporting traces of gas as water vapour and nitrogen dioxide, key elements to study the atmosphere and the relative climatic changes of the Earth. Thales Alenia Space plays an important role in this project. In its capacity as the prime contractor party on behalf of the European Space Agency, it has supplied the Hexapod Pointing System with the function of providing a platform for the SAGE III instrument. In addition to the system-related activities, developed in the Turin plant, certain parts of the flight system have been designed and built (Wiring, Thermal Control System, Software, Control Algorithms, etc...,) as well as prototypes, simulation systems and support systems.

SKY Perfect JSAT Orders High Throughput Satellite to Strengthen its Capability over Asia Pacific

February 20, 2017 - SKY Perfect JSAT Corporation announced the procurement of JCSAT-18, a high throughput satellite (HTS) to meet increasing demands in the mobility and broadband market. Built by Boeing, JCSAT-18 will carry a Ku and Ka-band HTS mission over Asia Pacific including Far East Russia as well as a traditional wide-beam mission over East Asia, in response to not only mobility and broadband demands but also government and cellular backhaul demands. The satellite is a condominium satellite shared with Kacific Broadband Satellites Pte. Ltd (Kacific), a Singapore-based satellite operator, that will operate Ka-band HTS satellite broadband services under the satellite name Kacific-1. The satellite will be launched in the second half of 2019.

Kacific Places Order with Boeing for a High Throughput Satellite

February 20, 2017 - Kacific Broadband Satellites Pte Ltd (Kacific) announced that it has ordered its Kacific-1 satellite from The Boeing Company based on the 702 satellite platform. This condominium satellite will be shared

with JCSAT-18, ordered by SKY Perfect JSAT Corporation. Kacific closed a US\$147 million financing round in late 2016 with a mix of equity, debt and customer prepayments which cover the purchase of the satellite, launch service, ground systems and all other project costs. To secure this funding, Kacific has signed 15 managed bandwidth wholesale agreements in 14 different countries for a total value of US\$434 million. Kacific-1 is designed to deliver uncontended broadband throughput via 57 Ka-band narrow beams, each having a capacity up to 1.25Gbps, with the highest signal power ever achieved in the region. The beams are selectively tailored to cover precise pockets of demand in a geographically dispersed footprint of 20 Pacific and South East Asian nations. Strategic positioning of the beams has enabled Kacific to sell capacity in 51 out of 57 beams so far, through take-or-pay contracts, with most beams exceeding 70 percent firm capacity bookings and several being almost saturated.

DLR Commissions Airbus to Develop the Payload and Payload Ground Segment for MERLIN

February 20, 2017 - Airbus Defence and Space has signed a contract with Space Administration at the German Aerospace Center (DLR) to develop and build all components of the German contribution to the German-French Earth observation mission MERLIN. The German Aerospace Center and the French space agency Centre National d'Études Spatiales (CNES) are jointly developing this challenging mission on behalf of the French and German governments. With this step, Europe's two largest spacefaring nations have resolved to seek a deeper understanding of the mechanisms that influence Earth's climate. As the industrial prime contractor on the German side, Airbus in Ottobrunn, near Munich, was commissioned by DLR to develop the payload and the payload ground segment. As the industrial prime contractor for CNES, Airbus in Toulouse is responsible for the overall system, the satellite platform and integration of the instrument.

ESA Affirms Open Access Policy for Images, Videos and Data

February 20, 2017 - ESA announced it has adopted an Open Access policy for its content such as still images, videos and selected sets of data. For more than two decades, ESA has been sharing vast amounts of information, imagery and data with scientists, industry, media and the public at large via digital platforms such as the web and social media. ESA's evolving information management policy increases these opportunities. In particular, a new Open Access policy for ESA's information and data will now facilitate broadest use and reuse of the material for the general public, media, the educational sector, partners and anybody else seeking to utilize and build upon it.

MDA to Provide Communication Antenna Subsystems for EUTELSAT-5WB

February 20, 2017 - MacDonald, Dettwiler and Associates Ltd. (MDA), a global communications and information company, has received an Authorization to Proceed from Airbus Defence and Space for the provision of multiple communication antenna subsystems to be integrated into the EUTELSAT-5WB communication satellite. The full contract is expected to be valued in excess of CA\$3 million. MDA's antenna solutions cover a wide range of requirements to address single and multi-satellite programs in commercial, space, military and airborne markets.

New Lockheed Martin Lab in Silicon Valley "SPARC"s Interest in Space Science

February 22, 2017 - What sounds like science fiction is now reality for a new Lockheed Martin laboratory in Silicon Valley. Technicians from Denmark installed a new linear particle accelerator at the company's Advanced Technology Center to cap a significant expansion in space instrument testing. The accelerator, one of a few in the world, is part of a collection of new testing hardware designed to take spacecraft to new levels of capability and performance. The SPARC encompasses 1,800 square feet and includes new hardware to test sensitive instruments that range from space-based imaging and communications satellites to deep space navigation. The testing machines are extremely precise. For example, the particle accelerator speeds protons to over 12 million miles per hour, or 2 percent the speed of light. The electron accelerator shoots electrons to 66 percent the speed of light, and the solar simulator delivers 2.5 suns worth of light exposure. All the instruments are precisely positioned to less than 100 microns, many times smaller than the width of a human hair.

S7 Space Transport Systems Receives Russian Space Activities License

February 22, 2017 - The S7 Space Transport Systems company, part of the S7 Group holding, has received a license for space activities in Russia. The license provides the company with the right to participate in international space research cooperation and the peaceful use of outer space. After getting the license, the company will be able to carry out the integration of analytical work providing support for the launches of space vehicles from the Baikonur Cosmodrome using the Zenit-M space rocket complex. In 2016, the S7 Group announced a contract clinched with the Sea Launch service, stipulating the purchase of the Sea Launch complex including the Sea Launch Commander ship, the Odyssey launch platform which both carry special equipment for handling rocket components, as well as ground equipment at California's Long Beach base port and the

intellectual rights belonging to the Sea Launch company, namely the trademark. The company plans to carry out up to 70 space launches within 15 years.

Russian Soyuz-U Rocket Retires after 788 Missions

February 22, 2017 - The Soyuz-U rocket was launched by Russia's space agency (Roscosmos) on February 22 from the Baikonur cosmodrome located in the middle of Kazakhstan's steppes. Inside the rocket is the Progress MS-05, a freighter carrying 2.5 tons of miscellaneous cargo – fuel, food, water, sanitation, oxygen and air, as well as spare parts, supplies and experiment hardware – to the International Space Station (ISS). It was the final launch of Soyuz-U – the longest-serving rocket in history. The first Soyuz-U mission took place in May 1973 with a Soviet military surveillance satellite on board. Soyuz-U was an upgraded version of the R-7 launch vehicle with improved performance of first- and second-stage engines. In the early 2000s, Roscosmos decided to employ Soyuz-U to launch Progress-M robotic cargo spacecraft with resupply missions to the International Space Station (ISS) as more advanced versions of the Soyuz came into being. Throughout its lifetime, the Soyuz-U has also been one of the most reliable launchers with a remarkably high success rate. Out of 789 launches, only 22 were failures.

SpaceX Plans to Send Two People around the Moon

February 27, 2017 - SpaceX has been approached to fly two private citizens on a trip around the moon late next year. It will be a private mission with two paying customers, not NASA astronauts, who approached the company. The passengers are "very serious" about the trip and have already paid a "significant deposit," according to Elon Musk, CEO of SpaceX. The trip around the Moon would take approximately one week: it would skim the surface of the Moon, go further out into deep space, and loop back to Earth – approximately 300,000 to 400,000 miles. The plan is to do the trip in the second quarter of 2018 on the Crew Dragon spacecraft with the Falcon Heavy rocket, which is due to do its maiden launch this summer.

EXECUTIVE MOVES

AsiaSat Announces New Appointments

February 1, 2017 - Asia Satellite Telecommunications Company Limited (AsiaSat) strengthens commercial and strategy teams with appointments of Barrie Woolston as new Chief Commercial Officer and Sabrina Cubbon in a new role of Vice President, Business Development & Strategy. On 1 February 2017 and in the newly created role of Chief Commercial Officer, Woolston will integrate and lead all sales, marketing and commercial activities of the company. Woolston will lead a strong team that will search to understand and meet customers' needs, and continue to develop new businesses worldwide. Barrie Woolston has 30 years of experience in the Technology, Media, Telecom sectors, with a wealth of solid experience in managing sales teams and driving new business, most recently as Chief Commercial Officer with Encompass Digital Media based in Atlanta, GA, 13 years as Commercial Director of Arqiva's satellite and media business, and various global sales, marketing, product management and operations positions with leading brands globally. In the role of Vice President, Business Development and Strategy, Cubbon will be responsible for developing strategic initiatives to drive company's business growth.

Gogo Names Patrick Carroll Regional President in APAC

February 2, 2017 - Gogo announced the appointment of Patrick Carroll as regional president in Asia Pacific (APAC). Carroll is a 30-year aviation veteran, holding a variety of operational and management roles in the APAC region at Airbus and BAE Systems. He is also a certified flight instructor, chartered engineer and was awarded an OBE, an honor from the Queen of England for services to the aviation industry. Gogo currently provides in-flight connectivity services to Japan Airlines and Japan Transocean Air. Earlier this year, Gogo made an announcement securing regulatory approval to provide service on aircraft flying in Chinese air space and began service in China working with China Telecom Satellite. Carroll will manage Gogo's airline accounts, certification and operations in the APAC region from Shanghai and will report to Gogo's COO, John Wade.

Thales Appoints Emmanuel de Roquefeuil as Country Director in India

February 3, 2017 - Thales has announced the appointment of Emmanuel de Roquefeuil as the new VP and Country Director for India. He will succeed Antoine Caput with effect from 1st February 2017. In his new role, Emmanuel will lead and drive Thales' growth in the country and also realize the Group's overall goal of 'make in India and export from India'. He has been with Thales for more than 27 years and has occupied key positions in

the sales and marketing divisions in France and overseas. Prior to joining Thales in 1989, Emmanuel worked with Dassault Aviation as a project engineer on the European space shuttle HERMES.

Thaicom Appoints Dr. Supoj Chinveeraphan as New Chief Strategy Officer

February 6, 2017 - Thaicom Public Company Limited has announced the appointment of satellite industry veteran Dr. Supoj Chinveeraphan as its Chief Strategy Officer (CSO). Among Dr. Chinveeraphan's responsibilities will be leading the growth of Thaicom as an Asian brand, inclusive of marketplace strategy, market positioning, partnerships, and operations. Supoj Chinveeraphan recently joined Thaicom after holding a number of high-ranking positions within the telecommunications industry, including the role of Director and General Manager of IPSTAR Australia and New Zealand from 2009 to 2015. With over 20 years of professional experience in operations, sales, marketing and business development, Dr. Chinveeraphan has an impressive track record of leading companies to increased productivity and developing satellite services for the telecommunications industry.

Swedish Space Corporation Names Daniel White as Executive Vice President for Americas Region

February 7, 2017 - Swedish Space Corporation (SSC) announced that Daniel White has been named Executive Vice President for Satellite Management Services' (SaMS) Americas Region. In his new role, White will lead the business operations and customer relationships in North and Latin America for National Security, Civil and Commercial Space. Prior to joining SSC, White spent nine years at COM DEV as the President of COM DEV USA, responsible for the U.S. Division and most recently as Vice President of Corporate Development leading the strategic direction of the worldwide company.

Sylvain Merle Named as New Globecast CTO

February 15, 2017 - Globecast has named Sylvain Merle as its new CTO. Merle will be responsible for managing skill centres, developing strategic partnerships and contributing to technological advances such as IT architecture and storage, headends, WAN, LAN and CDN Networks. Sylvain joins Globecast from beIN Media Group, where he worked as the company's technical director. He has previously held senior technical positions with Fox International Channels, TV5Monde, and Thomson Broadcast Systems.

Alan Young Joins Crystal as Chief Operating Officer

February 23, 2017 - Crystal, a provider of advanced monitoring and control software for video distribution over satellite, cable or the Internet, announced that Alan Young, former Chief Technology Officer of Encompass Digital Media, has joined the company as Chief Operating Officer. Alan Young brings with him a wealth of experience in the broadcast and satellite industries. At Encompass, Young was responsible for advising the Executive Committee and customers on all matters relating to media technology, including leading the development of the company's over-the-top (OTT) service offerings. He developed and implemented an OTT strategy that complemented and seamlessly integrated with the existing broadcast systems and satellite distribution. Prior to Encompass, he held senior technology executive positions with the satellite operator SES as well as Citigroup and Viacom.

SES Board of Directors Appoints Three New Members to its Executive Committee

February 24, 2017 - SES S.A. announced that the Board of Directors appointed Steve Collar, John Purvis and Evie Roos as new members to its Executive Committee. Steve Collar will join in his current role as CEO of O3b Networks, John Purvis as Chief Legal Officer and Evie Roos as Chief Human Resources Officer. Like the four current Executive Committee members, the three top executives will report to the President and CEO of SES, Karim Michel Sabbagh.

REPORTS

NSR Releases the 2nd Edition of Flat Panel Satellite Antennas Report

February 6, 2017- NSR's Flat Panel Satellite Antennas, 2nd Edition (FPA2) report forecasts cumulative FPA equipment sales to reach \$9.1 billion by 2026. As the only multi-client report on this emerging technology, NSR's FPA2 finds that aeronautical equipment will drive revenue growth for manufacturers, while fixed broadband services from non-GEO satellites will be the main volume market. Flat Panel Antennas (FPAs), and more specifically, phased array antennas, have been deployed since the 1980s. Their cost and performance have been the major factors holding back the potentially 'game-changing' technologies.

WTA Releases Research Report: Thriving in a Fiber, Wireless and HTS World

February 21, 2017 - Teleports in a Fiber, Wireless and HTS World examines the business decisions teleport operators are making today to build value in their operations regardless of transmission paths, and to deal with new competitors, access new customer, and master the multiplying technologies of tomorrow's more complex networks.

NSR Releases Wireless Backhaul via Satellite, 11th Edition

February 22, 2017 - NSR's Wireless Backhaul via Satellite, 11th Edition is the longest-standing industry analysis and forecast of the Satellite Backhaul and Trunking backbone sector. The assessment covers the installed base of sites in seven regional markets, investigates trends impacting market growth and business models, forecasts capacity requirements and equipment shipments, and calculates satellite capacity and CPE revenues.

Oil, Gas and Aviation Vertical Markets Spur Adoption for Satellite IoT

February 23, 2017 - Frost & Sullivan's new analysis of the Global Satellite Internet of Things (IoT) market, Forecast to 2022, focuses on satellite's increasing role in the rapidly expanding IoT market and how the technology can be leveraged to fill in the gaps left by land-line and cellular-based solutions. Due to a satellite's complete global coverage and reliability, it is in a position to facilitate IoT growth in difficult/remote applications, which have been previously impossible to connect. Thus, instead of positioning satellite as a competing technology, this research shows the potential for satellite to complement other terrestrial networks or to serve as the sole/primary technology for unique applications.

UPCOMING EVENTS

SATELLITE 2017, 6-9 March 2017, Washington DC, USA, www.satshow.com

ABU Digital Broadcasting Symposium 2017, 6-9 March 2017, Kuala Lumpur, Malaysia, www.abu.org.my/dbsymposium

Telecoms World Asia 2017, 22-22 March 2017, Bangkok, Thailand, www.terrapinn.com/conference/telecoms-world-asia/

CABSAT 2017, 21-23 March 2017, Dubai, UAE, www.cabsat.com

CABSAT is the leading professional content entertainment event in the MEASA region. An exciting, interactive event featuring all the major global technology and content service providers for this growing industry, CABSAT continues to extend its global and regional reach. The show is the dominant broadcast, digital media and satellite communications technology platform for anyone wishing to target broadcasters, production houses and studios, animation houses, content owners and creators, software developers, telcos, systems integrators and distribution channels in the MEASA region.

*DRIVING THE "TRANSFORMATIVE" MENA ENTERTAINMENT MEDIA MARKET- CABSAT: 21-23 March 2017
Dubai World Trade Center*

China Content Broadcasting Network (CCBN), 23-25 March 2017, Beijing, China, www.ccbn.tv/EN/channels/160.html

33rd Space Symposium, 3-6 April 2017, Colorado Springs, USA, www.spacesymposium.org

India Satcom 2017, 10-12 April 2017, New Delhi, India, www.indiasatcombroadband.com

Broadband Forum Asia, 11-12 April 2017, Hong Kong, <https://tmt.knect365.com/broadband-tv-connect-asia/>

Satellite Connectivity Workshop, 22 April 2017, Nadi, Fiji, <http://casbaevent.com/events/satellite-connectivity-workshop/>

MilSatCom Asia Pacific 2017, 15-16 May 2017, Singapore, www.milsatcomasia.com

As space is becoming more congested, contested and competitive, it is critical to look at how SatCom is utilized to gain the upper hand in the frontier that is crucial for future combat. By bringing you latest updates from regional

experts such as The Republic of Korea Armed Forces, US Air Force, Indian Armed Forces, Indonesian MoD, New Zealand Defence Force and Canada Maritime Forces Pacific Headquarters among others, as well as key industry vendors such as Hughes Network Systems, this year's conference will equip you with the tools to enhance your SatCom capabilities for effective military communications.

CASBAA Satellite Industry Forum, 22 May 2017, Singapore, <http://casbaaevent.com/events/casbaa-satellite-industry-forum/>

CommunicAsia2017, 23-25 May 2017, Singapore, www.communicasia.com

SatComm2017@CommunicAsia2017, 23 May 2017, Singapore, www.communicasia.com

Global Space Exploration Conference (GLEX), 6-8 June 2017, Beijing, China, <http://glex2017.org/>

VIETNAM ICT COMM 2017, 7-9 June 2017, Ho Chi Minh City, Vietnam, www.ictcomm.vn

World Satellite Business Week, 11-15 September 2017, Paris, France, www.satellite-business.com/en

IBC 2017, 14-19 September 2017, Amsterdam, the Netherlands, www.ibc.org

APSCC 2017 Satellite Conference Exhibition, 10-12 October 2017, Tokyo, Japan, www.apsc2017.com

Communic Indonesia 2017, 25-27 October 2017, Jakarta, Indonesia, www.communicindonesia.com

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About APSCC

APSCC is a non-profit, international organization representing all sectors of satellite and space-related industries. The aim of the organization is to exchange views and ideas on satellite technologies, systems, policies and outer space activities in general along with satellite communications including broadcasting for the betterment of the Asia-Pacific region. Conferences, forums, workshops, and exhibitions are organized through regional coordination with its members in order to promote new services and businesses via satellite as well as outer space activities. APSCC membership is open to any government body, public or private organization, association, or corporation that is involved in satellite services, risk management or associate fields such as data-casting, informatics, multi-media, telecommunications and other outer-space related activities with interests in the Asia-Pacific region. More information is available at www.apsc.or.kr.