

APSCC Monthly e-Newsletter

March 2018

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. 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

APSCC 2018 Satellite Conference & Exhibition **2-4 October, Shangri-La Hotel, Jakarta, Indonesia**

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 business deals. The APSCC 2018 Satellite Conference & Exhibition will incorporate industry veterans and new players into the program to reach out to a broader audience. Mark your calendar for the APSCC 2018 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. Contact info@apscc.or.kr for general inquiries to the APSCC 2018.

SATELLITE BUSINESS

URSYS Services to Migrate to Optus D2 Satellite

February 1, 2018 - Optus Satellite and URSYS services, which specialises in remote area communications offerings, have announced that, following a competitive market review, URSYS iDirect VSAT services will be migrated to the Optus D2 satellite by December 2018. Through its partnership with Optus, URSYS iDirect VSAT services will provide high quality broadband satellite communications, ideal for remote areas of Australia that are unable to connect with broadband services through regular means. URSYS has been operating iDirect based VSAT networks for more than 10 years, supporting hundreds of sites across Australia and internationally.

Marlink First to Introduce Prepaid Cards for Voice Calls on Inmarsat Fleet Xpress

February 1, 2018 - Marlink has become the first Inmarsat Fleet Xpress Value Added Reseller (VAR) to provide customers with a prepaid voice card calling facility, giving seafarers a low-cost and easy to manage way to call family and friends ashore. The prepaid facility is available through Marlink's established Universal Card, Universal Card Go and Prepaid Talk products, making it easy for ship owners to start offering the service and providing familiarity for the crew members using it. Simplifying the process for both ship owners and end-users, all prepaid minutes on Marlink's standard calling cards can be used on either the Ka-band Global Xpress (GX) or back-up L-band FleetBroadband elements of the Fleet Xpress service. The same prepaid minutes can also be used on other Marlink services including Ku and C-band VSAT, so regardless of the connectivity service available, seafarers need just one card to make calls to both terrestrial and mobile numbers.

Kratos Completes First Milestone in Critical Deployment Study for Air Force Spacecraft Enterprise Ground Services (EGS)

February 1, 2018 - Kratos Defense & Security Solutions announced today that it successfully completed Phase 1 of an EGS Study Contract that demonstrates a path forward to transition the Command and Control System-Consolidated (CCS-C), the Military Satellite Communications (MILSATCOM) Satellite C2 system, into the EGS. EGS is an enabler for the Air Force's Space Enterprise Vision (SEV), designed to support a sustainable, resilient space architecture that can respond to threats and protect space-based assets. EGS will result in a more resilient, cost-effective ground architecture that is more robust, provides for enhanced space situational awareness (SSA) and will integrate with the Air Force's Enterprise Space Battle Management Command and Control system (BMC2) now being developed. Two other SEV

components focus on new, more resilient space architecture and a more responsive satellite launch capability.

Campbell Shipping Migrates to Inmarsat Fleet Xpress

February 2, 2018 - Inmarsat has reached an agreement with Campbell Shipping, a ship management company headquartered in Nassau, The Bahamas, to migrate its fleet of dry bulk carriers to Fleet Xpress. The commitment will involve a migration and upgrade from Inmarsat's XpressLink services to Fleet Xpress, in a move to ensure ships managed by Campbell ships will continue to have the best satellite connectivity service available on the market. Campbell Shipping regards resilient and high-performance IT and communications infrastructure as essential in enabling its management system, the Campbell Target Operating Model (C-TOM), to perform to its full potential; ensuring vessel productivity and safety, and alleviating the isolation sometimes felt by those working at sea.

Speedcast Secures Contract with NBN Co Australia

February 5, 2018 - Speedcast International Limited has secured a 10-year contract with Australian government-owned infrastructure provider NBN Co Limited to deliver enterprise-grade satellite services. Speedcast's wholly-owned subsidiary and dedicated entity, Speedcast Managed Services, will partner with NBN Co to design, build and manage NBN Co's enterprise satellite services. The value of the base network build and managed services project is AU\$107 million and with other demand-driven services the aggregate revenue is expected to be up to AU\$184 million in total. This new contract will be a transformational project for Speedcast in Australia. Speedcast will leverage its experience as Australia's largest provider of enterprise-grade satellite services to build and operate, in support of NBN Co, a unique suite of satellite services targeted at enterprise and government customers in Australia. To deliver on its mission, Speedcast will set up a new office with world class specialists in Melbourne to support NBN Co. The services provided by Speedcast will complement NBN Co's consumer satellite service and will serve to increase the availability of enterprise-grade cost-effective communications solutions for Australian businesses.

Mitsubishi Electric's New Small, Low-cost Array Antenna Achieves High-precision Beam Scanning

February 5, 2018 - Mitsubishi Electric Corporation announced its development of the REESA (Rotational Element Electronically Scanned Array) antenna, a small, low-cost array antenna that achieves high-precision beam scanning by electronically rotating antenna elements individually. The REESA antenna is suitable for airport radar systems, mobile satellite communication systems and possible new applications such as microwave-based industrial heating and mounting on drones for long-distance data transmission. Commercialization of the product is targeted at 2020.

NBN and Speedcast Select Gilat for Business and Enterprise Satellite Service in Australia

February 5, 2018 - Gilat Satellite Networks has announced that NBN and Speedcast have selected Gilat's satellite platform for its Business and Enterprise Satellite Service (BESS) for businesses in Australia. The BESS network solution will utilize the nbn Sky Muster Ka-band multi-beam satellites. Gilat technology is a major element in Speedcast's managed service offering to NBN Co. Gilat is responsible for the supply, configuration and specialist operational support of the satellite network platform and is responsible for meeting Speedcast's strict service levels for this project. The expected revenue for this project is tens of millions of dollars over a period of several years. Gilat's satellite solution will support the vision of extending business grade services to regional Australia. NBN Co's BESS project will assist Australia's regional and rural businesses growth through broadband connectivity to e-commerce and the global economy. This project will meet the demand for broadband bandwidth services for businesses and government customers, throughout regional and rural Australia.

Inmarsat and Deutsche Telekom Complete the Key Technology Step for EAN

February 6, 2018 - Deutsche Telekom and Inmarsat have, together with their technology partner Nokia, completed the key technological step in the development of the European Aviation Network (EAN), the world's first integrated S-band satellite and complementary LTE-based terrestrial network built for Europe. With the set-up of around 300 base stations across all 28 member states of the European Union, as well as Switzerland and Norway, the ground network component of EAN has become the first ever Europe-wide integrated LTE network. The completion of the network follows Inmarsat's successful launch of its EAN satellite last summer, which has since been extensively tested in orbit and has been fully operational since September 2017.

Singapore Takes Next Step towards Implementing World's First Space-based VHF Communications

February 6, 2018 - GomSpace together with The Civil Aviation Authority of Singapore (CAAS) and Singapore Technologies Electronics Limited (ST Electronics) signed a research collaboration agreement to conduct a design study on the implementation of space-based Very High Frequency (VHF) communications for air traffic management (ATM) in the Singapore Flight Information Region (FIR). This agreement follows the signing of a MoU by the three parties in July 2017 to explore the application and deployment of the space-based system. The implementation of space-based VHF communications in the Singapore FIR will entail a design study phase, a proof of concept phase, and finally an operationalisation phase. With the collective expertise of CAAS, ST Electronics and GomSpace, the design study is expected to deliver solutions to overcome implementation challenges identified during the preliminary analyses, by defining baseline requirements, developing conceptual designs and conducting simulations.

Gilat's Ku/Ka Aero Terminal Achieves Unprecedented Performance during Live Customer Demonstration in China

February 6, 2018 - Gilat Satellite Networks has announced that its dual-band Ku/Ka aero terminal achieved unprecedented performance at a live demonstration in China. The terminal reached speeds of 130Mbps with dozens of concurrent users enjoying: browsing, video streaming, video and voice calls as well as various chat applications. The demonstration took place in a cabin user environment together with Air Esurfing, operating with Gilat's fully integrated dual-band antenna terminal as well as the Taurus Modman. Gilat's high-performance Modman as well as the high-gain antenna panel in Ka-band, were key factors in the outstanding results of the demonstration. Gilat's fully deployed mobility baseband is already operational and in use on China's first domestic HTS Ka satellite. The deployed network not only improved end-to-end results, but also significantly reduced the complete IFC system deployment time. Gilat's Ku/Ka antenna will be undergoing supplemental type certificate (STC) in the coming months.

Cobham SATCOM Provides Tomorrow's Next-Gen Services Today

February 6, 2018 - Cobham SATCOM has developed next generation SwiftBroadband-Safety-powered satcom systems allowing airlines and operators to benefit immediately from the unfolding revolution in aviation safety and the connected cockpit. The AVIATOR 300D and 350D terminals are two of the latest additions to Cobham's established AVIATOR portfolio, offering a bridge to the new era of air traffic management (FANS 1/A) represented by the combination of Inmarsat's SwiftBroadband-Safety (SB-S) flight deck communications platform and Cobham's landmark AVIATOR S series. With technology evaluations well underway of Inmarsat's SB-S, the experts from Cobham will be on hand at the 2018 Singapore Air Show to showcase AVIATOR S and SB-S, and outline the game-changing services and capabilities of tomorrow that its customers can receive today with its currently available terminals.

Iridium Announces First Land-mobile Service Providers for Iridium Certus

February 7, 2018 - Iridium Communications announced the first Iridium Certus service providers for land-mobile applications, planned for commercial availability in mid-2018. This initial group of six world-class land-mobile service providers play a pivotal role in bringing Iridium Certus to market. Enabled by the Iridium NEXT satellite constellation, Iridium Certus will deliver reliable, global broadband connectivity and high-quality voice service to the land-mobile industry. The initial Iridium Certus service providers for land mobile applications include: Applied Satellite Technology (AST), Arion Communication, Kaigai Communication Corporation, MVS USA, Network Innovations US, Spacenet. Iridium Certus will extend the reach of terrestrial and cellular infrastructure like never before with truly mobile communications capabilities, making it ideal for supporting critical connectivity needs regardless of location, terrain and weather events. The service will feature a range of data speed options and will integrate with the robustly designed Thales MissionLINK terminal, providing a reliable connection for voice, satellite internet, cellular data, Land Mobile Radio (LMR) and location-based applications. With Iridium Certus, customers will be able to control costs by eliminating the need to deploy expensive ground-based infrastructure or large, expensive directional terminals that rely upon geostationary satellites.

United Airlines, Viasat Sign New Contract to Bring High-Speed Connectivity to New Aircraft

February 8, 2018 - Viasat Inc. announced a new contract with United Airlines (UAL) to bring Viasat's latest generation in-flight entertainment and connectivity (IFEC) system to more than 70 aircraft, including at least 58 of United's new Boeing 737MAX aircraft. Viasat will serve as the direct in-flight internet service provider to United, deploying its most advanced IFEC system, in order to provide United customers access to fast, reliable internet connections from the air – for accessing their favorite websites to connecting with

key business applications such as a corporate VPN and secure email. Viasat's IFEC system will also power United's Private Screening entertainment option, which offers customers access to hundreds of entertainment titles from its onboard library direct to their own devices.

OneWeb Plans Early 2020 Australian Entry to Capitalise on 5G Rollouts

February 9, 2018 - Global mega-constellation OneWeb has for the first time provided some detail on its proposed Australian service, which it expects to start offering in early 2020 to coincide with the rollout of 5G networks here. The company, which has received financial backing of more than US\$1.5 billion to date, has also called on the Australian Communications and Media Authority to reduce its licence fees for Ka-band spectrum. As exclusively revealed in Space & Satellite AU, the company obtained the initial approvals from the Australian Communications and Media Authority in November that will allow it to operate in Australia. Now it has also made its first foray into Australia's regulatory debate with a submission to the ACMA's five-year spectrum outlook. The submission said that the company looks forward to working with the ACMA more closely as it "establishes itself as a player of significance in the Australian market".

Elcome International Completes Satcom Switchover for LNG Tanker Fleet

February 12, 2018 - Elcome International has completed a satellite communications retrofit program for a major fleet of LNG tankers providing broadband data and voice services. The scope of work included system design, site survey, system integration, hardware and software installation, commissioning, training, project management and airtime for the ships' VSAT, Fleet Broadband and Inmarsat-C systems. In addition, Elcome is managing worldwide shipboard service for the fleet. To that end, Elcome has established a network operations center at its Dubai headquarters for first-line customer support and will also provide shore-based maintenance under a separate yearly contract.

Comtech Announces Contract Renewal with Leading Automotive Services Provider

February 13, 2018 - Comtech Telecommunications has announced that, during its second quarter of fiscal 2018, its Enterprise Technologies group, which is part of Comtech's Commercial Solutions segment, has received a renewal agreement worth \$1.4 million from a leading automotive services provider for various location data applications, including geo-location and messaging services. Comtech Telecommunications Corp. designs, develops, produces and markets innovative products, systems and services for advanced communications solutions. The Company sells products to a diverse customer base in the global commercial and government communications markets.

Gogo's 2Ku Equipped Aircraft First to Utilize SES-15 HTS Capacity

February 14, 2018 - Gogo announced that it has more than 200 aircraft equipped with its 2Ku inflight connectivity technology utilizing the increased capacity delivered by SES-15. These aircraft came online in SES-15's first operational month and are the first to benefit from the new high throughput satellite (HTS) capacity. SES-15 entered service in January 2018 and is SES's first hybrid satellite providing Ku-band wide beams and Ku-band spot-beam capacity over North America, Mexico, Central America and the Caribbean. Due to SES-15's high-powered HTS beams, all Gogo aircraft outfitted with its next generation modem will experience an even better customer experience with improved economics. All new 2Ku installations enter service with the upgraded modem, and all 2Ku equipped aircraft are expected to have the new modem by the end of this year. Gogo has signed capacity agreements across 11 SES satellites around the world, including agreements for HTS capacity onboard SES-15 and SES-14, which successfully launched in January 2018 and will provide additional HTS capacity over Latin America, the Caribbean, and across the North Atlantic.

FCC Chairman Pai Statement on SpaceX Satellite Broadband Application

February 14, 2018 - Federal Communications Commission Chairman Ajit Pai proposed that the agency approve an application by Space Exploration Holdings, doing business as SpaceX, to provide broadband services using satellite technologies in the United States and on a global basis. Over the past year, the FCC has approved requests by OneWeb, Space Norway, and Telesat to access the United States market to provide broadband services using satellite technology that holds promise to expand Internet access in remote and rural areas across the country. These approvals are the first of their kind for a new generation of large, non-geostationary satellite orbit, fixed-satellite service systems, and the Commission continues to process other, similar requests.

Myriota to Open IoT Innovation Laboratory in Adelaide

February 14, 2018 - Satellite communications company Myriota will invest \$2.72 million in an “Internet of Things (IoT) Laboratory” in Adelaide, creating more than 50 new jobs in IT and advanced manufacturing. Myriota’s investment of \$1.36 million, which will be matched by a grant from the South Australian State Government’s Future Jobs Fund, will allow the company to integrate its ultra-low-cost satellite IoT solution into a wide range of global products and services.

Speedcast Expands Relationship with Royal Caribbean Cruise Lines

February 15, 2018 - Speedcast International Limited has extended its relationship with the largest consumer of satellite bandwidth in the cruise industry, Royal Caribbean Cruise Lines (RCCL), which will be further increasing the bandwidth delivered across 37 ships. Speedcast’s experience with Royal Caribbean dates back to 2006, when the company installed RCCL’s first Ku-Band VSAT antenna onboard a vessel to satisfy peak seasonal communication demand in the Brazil region. The Speedcast network now delivers fully managed communications solutions and value-added services to 37 Royal Caribbean brand ships for shipboard administration, guest and crew usage. Multiple antennas on each ship with seamless automatic failover between Ku-Band and C-Band ensures high availability and Service Level Agreements (SLAs).

Avanti Communications and GRC Sign Major Contract to Support Defence Communications

February 15, 2018 - Avanti Communications has signed a minimum commitment contract valued at \$500,000 with Global Radiodata Communications (GRC), who develop and supply mission-critical communication products and solutions, to provide high speed and resilient Ka-band satellite communications to defence and commercial operations. Following successful trials, Avanti and GRC will deploy secure high data-rate communications across Avanti’s High Throughput Satellites, HYLAS 1 and HYLAS 2, using GRC’s very small (man-pack and SCYTALE) terminal solution. The strategic partnership directly supports defence and security organisations in the provision of flexible, agile and portable satellite communications to the military across EMEA. The capability also demonstrates Avanti’s ability to support the exponential growth in the Internet of Things (IoT) and connected sensors, as well as enable defence and security organisations to take advantage of full motion video, as well as other C4ISR data.

UnicomAirNet Chooses Eutelsat for In-Flight Connectivity Services in Asia Pacific

February 16, 2018 - UnicomAirNet (UAN) has signed a multi-year agreement with Eutelsat Asia, an affiliate of Eutelsat Communications, to address the fast-growing in-flight connectivity (IFC) market in the Asia Pacific region. UnicomAirNet was established in 2017 by China Unicom’s broadband network unit and Hangmei, ChineseWi-Fi service and content provider for railways and buses, to provide IFC services to Chinese commercial airlines. As of 2019, UnicomAirNet will lease the remaining capacity on the High Throughput payload of the EUTELSAT 172B satellite, to enhance IFC services across an area stretching from the West coast of North America to Asia and Australia. The agreement follows the signature of a Memorandum of Understanding (MoU) between China Unicom and Eutelsat, which took place during the French President Emmanuel Macron’s state visit to China in January. The MoU aims at addressing the satellite communications market in Asia Pacific, within the framework of the “Belt and Road” initiative.

Customers of Palau Telecoms to Enjoy ‘always on’ Connectivity with SES Networks

February 19, 2018 - Customers of Palau’s local internet services provider Palau Telecoms will continue to enjoy enhanced and reliable fibre-like connectivity delivered by SES Networks. SES announced that in the latest contract signed, Palau Telecoms, which has been enjoying SES’s Networks exceptional networks performance since 2014, will be extending its contract until 2020, and increasing the amount of medium earth orbit (MEO) connectivity by 150%. A long-term customer of SES Networks, Palau Telecoms is utilising their existing MEO service to augment fibre capacity, providing an ‘always on’ service to its customers. This enhanced, robust infrastructure provides a solid foundation for their 4G implementation plans, giving their end users the quality experience they demand regardless of their location.

Intellian and Inmarsat Embark on Ground-breaking Next-generation FleetBroadband Development

February 19, 2018 - Inmarsat and Intellian signed an outline agreement that will support major enhancements to Inmarsat’s FleetBroadband service for the next decade and beyond. The new agreement will see Intellian design and manufacture a new generation of FleetBroadband terminals that will support the existing I-4 network alongside the major advances coming with Inmarsat’s sixth generation satellite constellation, the first of which is scheduled for launch in 2020. The next generation terminals will be significantly lower cost and feature a host of new capabilities, including much faster throughput speeds.

Inmarsat's sixth generation (Inmarsat-6) satellite constellation will be the first to feature dual-payload satellites, each supporting L-band and Ka-band services. The I-6 satellites will deliver a step change in the capacity of Inmarsat's L-band services, supporting a new generation of capabilities – from advanced global safety services and very low cost mobile services to Internet of Things (IoT) applications.

Iridium Certus Mission-Critical Broadband Readies for US DoD Users with COMSAT

February 19, 2018 - Iridium Communications announced that COMSAT has signed an agreement to become an Iridium Certus service provider for U.S. Department of Defense (DoD) users. This unique, long-term deal will allow COMSAT Inc. to provide Iridium's secure global satellite broadband connectivity for mobile voice and data services to the Department of Defense (DoD) beginning in mid-2018. Iridium Certus is planned for commercial availability in mid-2018. Iridium NEXT is the Company's next-generation satellite constellation, which will replace its existing network. To date, there have been four successful Iridium NEXT launches, deploying more than half of the new constellation. Four additional launches are planned for 2018.

ETECSA Enhances Connectivity to the Rest of the World with SES Networks

February 20, 2018 - SES announced that Cubans and visitors to Cuba will have additional access to reliable and uninterrupted connectivity throughout the main island of Cuba as ETECSA, Cuba's national telecommunications operator, signed a deal with SES Networks for satellite services. SES Networks will augment ETECSA's existing terrestrial infrastructure with its high-performance fibre-like medium earth orbit (MEO) capacity and improve connectivity for end-customers of the Cuban operator.

Hispasat Selects Gilat for a Multi-Million Dollar Project to Deliver Broadband Services in Mexico

February 20, 2018 - Gilat Satellite Networks Ltd. announces that Hispasat selected Gilat's innovative platform for a multi-million dollar project to provide broadband commercial services in Mexico using Hispasat's Ka HTS capacity of the Amazonas-5 Satellite. A potential of tens of thousands of Gilat's VSATs are estimated to be deployed over the next few years, as Internet Service Providers (ISPs) ramp up their service. Gilat's SkyEdge II-c, multi-service platform, optimally utilizes the high throughput satellite resources delivering cost efficient bandwidth while providing excellent user experience. The platform was selected to commercialize the full capacity of Hispasat's Amazonas-5 Ka beams over Mexico, enabling Hispasat and its customers to offer a variety of services such as broadband Internet services, WiFi connectivity in semi-urban and rural locations, and mobility applications to government and private sector clients.

Inmarsat Selects Sigma Systems for Large-Scale BSS Transformation

February 20, 2018 - Sigma Systems announced a multi-year contract with Inmarsat. With the digital revolution moving forward at great speed, Inmarsat recognized that a catalog-driven, agile approach to B/OSS was key to enabling more effective connections with their customers and partners through the products and services they sell. To this end, Inmarsat awarded Sigma a multi-year contract for its Catalog, CPQ (Configure Price Quote) and Order Management products to support Inmarsat's next-generation satellite services across all customer verticals. This contract marks another major deal for Sigma with a satellite operator, demonstrating the diverse application of a catalog-driven approach across communications, media and high-tech industries.

Globecomm Joins Amazon Web Services Partner Network

February 20, 2018 - Globecomm announced that it has joined the Amazon Web Services (AWS) Partner Network (APN) as a Standard Technology Partner. This agreement will enable Globecomm to seamlessly interoperate its global satellite and fiber network with AWS's storage, compute and cloud content delivery services. With multiple direct connections to AWS, Globecomm can provision customer content, work processes and resilient network connectivity into AWS. Customers already using AWS to support their processes can benefit from seamless access to Globecomm's teleports, satellite capacity, fiber points of presence and cloud software applications running on AWS.

Comtech to Provide Mobile Satellite Transceivers to Support the U.S. Army's Blue Force Tracking-2 Program

February 21, 2018 - Comtech Mobile Datacom Corporation, which is part of Comtech's Government Solutions segment, has been awarded an initial \$11.7 million order to immediately provide several thousand of its next generation MT-2025 Mobile Satellite Transceivers in support of the U.S. Army's Blue

Force Tracking-2 (BFT-2) system. Comtech's next generation MT-2025 transceiver, which is also known as the Blue Force Tracker-2 High Capacity (BFT-2-HC) Satellite Transceiver, meets BFT-2 protocols, provides best-in-class reliability and is fully backward compatible with the U.S. Army's Blue-Force Tracking-1 system (BFT-1).

Orbith Connects Rural Argentina, Powered by Newtec

February 22, 2018 - Newtec, a specialist in designing, developing and manufacturing equipment and technologies for satellite communications, announced its technology is being deployed by Orbith, a wholesale provider of high-speed Internet services. Buenos Aires-based Orbith is building a new VSAT network connecting 20,000 sites to provide consumer and business connectivity to the Buenos Aires province and surroundings. In order to accommodate a maximal subscriber number over one satellite transponder, Orbith wanted a technology provider that offers the highest efficiency in Ka-band. Orbith selected Newtec to guarantee this throughput optimization using the Newtec Dialog® VSAT platform, including different application modems that support single carrier operation of up to 500 MHz and the latest satellite transmission standard, DVB-S2X, to maximize space segment usage. This marks the first time the Satcom industry has seen a single 450 MHz carrier over a wideband transponder for commercial use.

Thaicom Launches Nava™ Maritime Service Platform

February 26, 2018 - Thaicom Public Company Limited announced the introduction of Nava™, the company's new maritime service platform for ship and offshore operators. With the launch of Nava, Thaicom is expanding its broadband service platform to support the maritime industry's digital transformation. Thaicom Nava is a high-speed broadband service designed to connect everyone and everything at sea, enabling efficient vessel operations and connecting crew and passengers to high-speed internet anywhere and anytime. The new Nava maritime service platform can support very high data rates able to provide fiber-to-the-ship (FTTS™) like connectivity to enable the digital ship of the future.

Speedcast Signs Contract to Provide Satellite Cellular Backhaul to New Mobile Network in Mali

February 26, 2018 - Speedcast announced that it won a multi-million dollar contract to provide satellite cellular backhaul services to Alpha Télécommunication Mali (ATEL), part of Planor Afrique Group, provider of the newest third-generation mobile network in Mali, Africa. Through the agreement, Speedcast will use satellite to connect all remote areas of the country to the Bamako main core infrastructure, allowing millions of potential consumers to benefit from Telecel voice and data services. ATEL is Mali's third cellular license holder and has plans to invest \$200 million to service the market, which will be able to support up to five million users. After successfully completing testing on calls, ATEL finalized a full commercial launch of the 3G cellular network, which will operate under the brand name Telecel.

Airbus, Delta, OneWeb, Sprint, Airtel Form Seamless Air Alliance Enabling Airlines

February 26, 2018 - Airbus, Delta, OneWeb, Sprint, and Bharti Airtel ("Airtel") announce the formation of the Seamless Air Alliance - which will usher in a new era of innovation for airlines on all routes. By empowering member mobile operators to extend their services into airline cabins, the Seamless Air Alliance will allow them to continuously provide their customers - via satellite technology - with the same high speed, low latency connectivity from ground, to air and back again. It will also significantly reduce costs for everyone involved while creating a smooth, positive user-experience. The alliance - which aims to attract additional industry operators beyond the five initial members - will eliminate the immense costs and hurdles commonly associated with acquisition, installation, and operation of data access infrastructure by streamlining system integration and certification, providing open specifications for interoperability, increasing accessibility for passengers, and enabling simple and integrated billing.

Visat and Telebras Enter into Strategic Agreement to Connect the Unconnected in Brazil

February 26, 2018 - Telebras and Viasat Inc. announced a strategic agreement to bring high-speed, affordable internet to unserved and underserved communities, health clinics, schools and hospitals across all of Brazil. The collaboration will help fulfill the Brazilian Government's National Broadband Program (or Programa Nacional de Banda Larga, known as "PNBL"), which is focused on promoting social and economic development in the country by ensuring fast, affordable broadband connectivity to all Brazilians. The collaboration will combine the Ka-band capacity of the Telebras-owned and controlled satellite, the SGDC-1 (Geostationary Satellite for Defense and Strategic Communications), with Viasat's proven ground network and infrastructure, and Viasat's unique ability to bring affordable and scalable broadband

services to communities where internet service has historically been unavailable.

Intelsat Selected by Gilat for Recent 4G Network Expansion in the United States

February 26, 2018 - Intelsat S.A. was selected by Gilat Satellite Networks Ltd. to support Gilat's solutions to mobile network operators (MNOs) in the United States as they accelerate their expansion of 4G wireless services to underserved areas across North America. Gilat will leverage Ku-band satellite services from two Intelsat satellites to enable MNOs to execute on their expansion plans and quickly increase network coverage to serve remote areas of the North American market.

Cobham Showcases AVIATOR SP Satcom Solution for Helicopters

February 26, 2018 - Cobham SATCOM is demonstrating the versatility and high-performance capabilities of its AVIATOR SP (Special Purpose) range specifically developed for helicopter applications at this year's HAI Heli-Expo. Offering Inmarsat's SwiftBroadband service for satellite communications support that is critical for special applications ranging from fire-fighting helicopters to military uses, the Cobham solutions offer in-flight connectivity access to the Internet, email and IP voice calls, plus they can support video streaming, video conferencing and aerial surveillance. AVIATOR SP systems are robust and ruggedized to meet enhanced requirements to environmental specifications. The rain-fade resistant satcom units have extended qualifications for helicopter vibrations and non-pressurised environments and they withstand wider temperature ranges.

Viasat Announces New Internet Service Powered by the ViaSat-2 Satellite System

February 27, 2018 - Responding directly to Americans' interests and demands for more data, more streaming video and faster download speeds at home, global communications company Viasat announced the availability of the fastest satellite-based home internet service across the nation – with speeds up to 100 Mbps. On top of that, the new Viasat service will offer unlimited data plans, giving customers more freedom and access to more online services – without the need to pay overage charges. The new service is powered by the ViaSat-2 satellite system, which includes the most advanced, highest-capacity communications satellite in orbit today, coupled with new innovations in satellite ground infrastructure.

Kratos Delivers Virtual Machine-based Satellite Ground Communications Architecture for Wideband Global SATCOM (WGS)

February 27, 2018 - Kratos RT Logic has delivered a virtual machine software satellite ground communications solution that commands the payload of the Wideband Global SATCOM (WGS) SATCOM satellites. Boeing's Global SATCOM Configuration Control Element (GSCCE) Evolution program chose Kratos' virtual solution to replace an older command and control technology. The delivery includes virtual machine software versions of Kratos' Front End Processor (vFEP) and Gateway (vGTW) systems. The vFEPs and vGTWs are installed and run in Virtual Machines (VMs) on customer supplied classified and unclassified commercial rack mounted blade servers. The delivery includes 40 vFEPs and 40 vGTW installations, enabling control of a fleet of up to 14 satellites from 5 operation centers supporting 28 separate command and control missions.

Carnival Corporation's MedallionNet to Set Industry Apex for Wi-Fi Bandwidth Capacity at Sea Powered by SES Networks

February 27, 2018 - Carnival Corporation & plc, the world's largest leisure travel company, will establish a new industry apex in connectivity capabilities at sea when it attempts to make an unprecedented level of bandwidth available to guests on board Regal Princess from its Princess Cruises brand. Using its newly developed connectivity service, MedallionNet, and working with SES Networks, Carnival Corporation and Princess Cruises will attempt to achieve bandwidth of 1.5 gigabits per second, the most ever delivered to a mobile platform. The record attempt will demonstrate that connectivity is no longer a limitation to cruise vacations. Guests using MedallionNet have access to the internet at speeds that eclipse typical land-based hotel connectivity performance levels.

Telenor and Cisco Sign Agreement to Collaborate on IoT, Smart Cities, Security and Data Analytics

February 28, 2018 - Telenor Group and Cisco announced have signed a Joint Purpose Agreement (JPA) to collaborate on enhancing end customer experiences with data analysis, IoT, Smart City, and security solutions. The joint effort aims to accelerate Telenor Group's continued transformation and digitization drive, and supports the joint pivotal role that both companies play in enabling superior experiences for Telenor customers. Under the terms of the JPA, Cisco will work closely with Telenor Group on its roadmap

to accelerate digital transformation, drive new revenue streams, increase operational excellence and enable the most secure customer experiences.

Globecomm Unveils Expanded Nimbus Portfolio to Meet Diverse Maritime Communications Needs

February 27, 2018 - Globecomm has unveiled an expanded range of its popular Nimbus smartbox. The Nimbus range now includes three options, Nimbus Lite, Nimbus and Nimbus Pro, each designed to meet the diverse communications needs of shipowners, managers and crew. The expanded range builds on the success of Nimbus, the 'bandwidth-neutral' communications platform launched in 2013 to support the next generation of hybrid and satellite connectivity, which already is managing business and crew communications across 1,000 installations. All Nimbus installations can be monitored and managed from any location via the Cirrus cloud portal, providing complete visibility, control and accountability across networks and devices from ship and shore.

VT iDirect and Software Radio Systems Partner to Transform Media Streaming over Hybrid Satellite Cellular 5G Network

February 28, 2018 - VT iDirect announced that it will partner with Ireland-based Software Radio Systems (SRS) to transform multimedia streaming on mobile devices, by leveraging the efficiencies of a hybrid cellular and satellite network. The project, partially funded by the European Space Agency (ESA), as well as VT iDirect's solutions group based in Killarney Ireland, will develop technologies based on LTE Broadcast, Adaptive Bitrate Video and Content Distribution Networks. This will bring about an enhanced video streaming experience for users around the globe, at a reduced network operational cost for network operators. iDirect and SRS will focus on how satellite can be used to efficiently deliver video content to mobile users by using satellite networks to cache content close to the cellular base station in anticipation of the introduction of the 5G mobile standard.

BROADCASTING

Radio Television of Serbia Broadcasts All Channels via SES Video

February 5, 2018 - Serbian public broadcaster RTS now transmits its entire bouquet of nine TV channels and four radio stations via Astra 5 degrees East, following an extension deal between SES and Telekom Srbija. Under the agreement announced by SES, the telecommunications company Telekom Srbija is leasing additional capacity on an ASTRA satellite to broadcast three additional RTS TV channels (RTS1, RTS2 and RTS Poletarac, a channel for children) and three radio stations (Radio Beograd 202, Radio Beograd 2 and Radio Beograd 3). Telekom Srbija and SES have an existing agreement to broadcast six TV channels and one radio station for RTS via 5 degrees East. With this new agreement, they now transmit the entire RTS channel portfolio at that orbital slot.

Eurovision Media Services and Eutelsat Extend Long-term Partnership

February 8, 2018 - Eurovision Media Services – the business arm of the European Broadcasting Union (EBU) – and Eutelsat announced the renewal and expansion of their partnership for capacity in Ku-band via a number of contracts on the EUTELSAT 10A satellite. These multi-year, multi transponder contracts will further expand the infrastructure used by Eurovision Media Services across the Eutelsat fleet to support the live transmission of major news and sporting events, including major football leagues and tournaments, to audiences in Europe and beyond.

NBC Olympics Selects SES Satellite Distribution for its 4K HDR Production of 2018 Olympic Games

February 13, 2018 - NBC Olympics, a division of the NBC Sports Group, has selected SES to provide 4K High Dynamic Range (HDR) satellite distribution for its production of the XXIII Olympic Winter Games, which take place in PyeongChang, South Korea, from February 8 - February 25. SES will use its satellite platform to distribute the NBC Olympics HDR feed to their affiliates throughout the United States, utilizing the SES-1 satellite located at 101 degrees West. As part of the implementation, SES has provided preconfigured satellite receivers to the affiliates that will be receiving the HDR feed. SES's 4K platform provides multichannel video program distributors (MVPDs) in the United States access to the world's largest bouquet of linear 4K programming. NBC Olympics will distribute 4K HDR coverage, provided by Olympic Broadcasting Services (OBS) and Japan's NHK, to U.S. distribution partners who will individually choose how they will make the content available to their customers.

Canal Digital Launches Next-gen Android TV UI for Satellite and OTT Powered by 3 Screen Solutions

February 13, 2018 - 3 Screen Solutions (3SS), leading provider of customized software solutions and services for multiscreen digital entertainment, has been selected by Canal Digital AS to design and develop a customized STB (set-top box) front end and UI for the operator's next generation UHD satellite and OTT platform, OnePlace. OnePlace is now live and delivering next-generation entertainment via satellite and OTT to viewers in Norway, Sweden, Denmark and Finland thanks to design, development and integration expertise provided by 3 Screen Solutions.

Mediaset Launches Three of its HD Channels on HOTBIRD

February 15, 2018 - Elettronica Industriale has signed a multi-year capacity agreement with Eutelsat to accelerate its transition to High Definition (HD). Thanks to this contract, the three flagship channels of the Mediaset Group (Canale 5, Italia 1 and Rete 4) will be broadcast simultaneously in SD and HD on the free tivùsat television package operating from HOTBIRD, Eutelsat's satellite hotspot for the Italian market. Located at 13° East, the HOTBIRD position is a reference video neighbourhood in Italy, particularly suited to DTH. Out of a thousand channels being broadcast from this position, more than 300 are in HD.

TVGE International Extends Global Reach with Satellite and Online Distribution via SES and MX1

February 20, 2018 - TVGE International, Equatorial Guinea's governmental channel, is partnering with SES and MX1 to deliver its content worldwide on both linear and non-linear platforms. TVGE International is a free-to-air, Spanish-speaking channel that offers local news, entertainment and cultural programmes. Under the agreement announced by SES/MX1, TVGE International will use satellite capacity to broadcast its 24/7 channel across Africa, Europe and the Americas. In addition, SES's wholly-owned subsidiary MX1 will provide video-on-demand (VOD) services and web applications for the channel. The non-linear distribution service, which will be the first of its kind in Equatorial Guinea, will enable viewers across the world to stream the channel live on the TVGE website or watch its programmes on their phones via a dedicated application.

Canal+ Group Launches Pay-TV Service in Myanmar

February 20, 2018 - Canal+ Group is launching a pay-TV service in Myanmar in partnership with Forever Group. Canal+ Myanmar will offer nearly 80 channels including eight Canal+ channels in the Burmese language and showcasing local content. Founded in 1996, Forever Group was behind the launch of the first pay-TV offer in Myanmar in 2006. The establishment of Canal+ Group in Myanmar is part of its development strategy in territories with high growth potential, the second largest country in Asia after Vietnam. The Canal+ Group is also present in Africa where it has 3.5 million subscribers with strong annual growth.

ATEME Enables Winter Games Transmission of Industry First Next-gen TV Broadcast

February 23, 2018 - ATEME, the video delivery leader, has announced that WRAL-TV has successfully tested the TITAN compression solution to help support public demonstrations of the ATSC 3.0 broadcast television standard. The broadcasting and technology partners worked together to broadcast stunning 4K ultra high definition video using LDM (Layer Division Multiplexing) technology and showcasing new interactive applications to enhance the TV experience for viewers. ATEME's TITAN is a virtualized software-based encoder-transcoder, designed for DTT, DTH and OTT. It supports HEVC, H.264 and MPEG-2 codecs for mobile to 4K UHD resolutions such as this and delivers the highest video quality at minimum bitrates.

Blue Ant Media Selects MEASAT for its Asia Pacific Video Distribution

February 27, 2018 - MEASAT Satellite Systems Sdn. Bhd. (MEASAT) announced an agreement with international content producer, distributor and channel operator, Blue Ant Media to distribute six (6) video channels across Asia Pacific, further reinforcing its 91.5°E orbital position as Asia's leading video neighbourhood. As part of a new carriage deal, Blue Ant Entertainment HD, Blue Ant Extreme HD, Blue Ant Entertainment Philippines SD, ZooMoo HD, Love Nature 4K and Love Nature HD have all begun transmission and are available to Pay-TV operators across Asia Pacific. MEASAT is the preferred option for the Asia Pacific distribution given the popularity of the video neighbourhood at 91.5°E, wide affiliate reach and ability to offer customized solutions.

Eutelsat, Blue Ant Media, and iKO Media Group Partner on the Broadcast of ZooMoo HD, Love Nature HD and Love Nature 4K

February 27, 2018 - Eutelsat, Blue Ant Media, and iKO Media Group, have joined forces to distribute two HD channels, ZooMoo and Love Nature HD, as well as Love Nature 4K (Ultra HD), across Europe, the Middle East and North Africa. ZooMoo is a children's channel with over 500 hours of original content. ZooMoo offers spectacular wildlife footage, puppetry, animation and narration and creates a unique learning experience for preschool viewers. Love Nature brings wildlife and nature fans of all ages an extensive line-up of in-house natural history programming, with much of the content produced in 4K. Blue Ant Media and iKO Media Group are leveraging capacity on two Eutelsat satellites to bring the three channels to a broader audience base. The ZooMoo and Love Nature HD channels have chosen the EUTELSAT 9B satellite's high-power footprint to expand their audiences in Europe. Love Nature 4K is extending its reach with Eutelsat's popular HOTBIRD neighbourhood, a growing hub for Ultra HD.

Globecast Selects Skyline Communications for Automated, Proactive Subtitle and Uplink Monitoring

February 28, 2018 - Globecast has deployed the award-winning DataMiner solution from Skyline Communications, the global leading supplier of end-to-end multi-vendor network management and OSS software solutions for the broadcast, satellite, cable, telco and mobile industry. This allows Globecast Asia to automatically check subtitles as well as to monitor uplinks and multiple satellite transponders, enhancing value for its broadcast customers beyond SLAs. In multilingual Asia, subtitles are key to a channel's success. In many countries, if a program has no local language subtitles, this often causes viewers to stop watching. With Globecast Asia's growing number of customers, installing a proactive, automated system that allows detailed subtitle monitoring was essential. DataMiner, which features highly user-definable file-based process management capabilities, monitors the availability of subtitles against the scheduled playlist three days before the transmission. This means operators are alerted well in advance about missing subtitles attached to a scheduled program, so they can take action accordingly. DataMiner also checks subtitles on air, provides an audio-visual alarm in those rare cases where subtitles are missing, and prompts for manual intervention.

LAUNCH / SPACE

Lockheed Martin Begins Construction on First Orion Spaceship

February 1, 2018 - Construction has officially begun on the spaceship that will achieve America's goal of returning astronauts to the Moon. Lockheed Martin technicians and engineers at the NASA Michoud Assembly Facility near New Orleans welded together the first two components of the Orion crew module capsule for Exploration Mission-2 (EM-2). Orion is America's exploration spaceship, and the EM-2 mission will be its first flight with astronauts on board, taking them farther into the solar system than ever before. This flight, launched atop the Space Launch System (SLS) rocket, will usher in a new era of space exploration, laying the groundwork for NASA's lunar Deep Space Gateway, and ultimately for human missions to Mars.

China Puts High-Throughput Communications Satellite into Service

February 1, 2018 - Shijian-13, China's first high-throughput communications satellite, has been put into service after completing a key laser communication test. The high-orbit satellite has finished a two-way high-speed laser communication test between the satellite and ground, the first of its kind in the world, the administration said in a statement. Shijian-13, launched from Xichang Satellite Launch Center in southwest China's Sichuan Province in 2017, has a transfer capacity of 20 Gbps and a designed orbital life of 15 years. The satellite, named Zhongxing-16 after it was put into service, will provide better Internet access on planes and high-speed trains with a maximum download capacity of 150 Mbps and upload capacity of 12 Mbps.

SSTL and 21AT Announce New Earth Observation Capacity Contract

February 2, 2018 - Surrey Satellite Technology Ltd (SSTL) signed a £25M contract in Beijing with Twenty First Century Aerospace Technology Co., Ltd (21AT) to provide data from a new Earth Observation satellite (SSTL-S1) due for launch on PSLV in the middle of this year. As the manufacturer and owner of the SSTL-S1 satellite, SSTL will lease imaging payload capacity to 21AT for the lifetime of the satellite, designed to be in excess of 7 years. The SSTL-S1 satellite will contribute sub-one metre resolution image data into 21AT's

existing TripleSat Constellation service, comprising three SSTL DMC3 satellites launched in 2015. The addition of the SSTL-S1 satellite will enhance both the revisit capability of the TripleSat Constellation and its efficient global high resolution remote sensing satellite data acquisition and operation services that support a wide range of existing successful user applications by 21AT's domestic and overseas customers.

GomSpace's Fourth Demonstration Mission is Successfully Launched

February 2, 2018 - GomSpace announced its GOMX-4 satellites were successfully launched from JSLC with a LM-2D launch vehicle. The satellites were separated as planned in the altitude of 500km and inclination of 97.32 degrees. The in-orbit demonstration planned for this mission shall pioneer the advanced uses of nanosatellites. GOMX-4 is a demonstration mission which includes two 6U satellites: The GOMX-4A mission involves north area monitoring and the GOMX-4B mission is for innovative payload demonstrations. It will monitor and demonstrate Satellite Communication between Nanosatellites, and the in-orbit results and experiences gained from the GOMX-4 experiences will provide knowledge, information and experience for scaling to more advanced communication schemes required by larger nanosatellite constellations. GOMX-4 are twin siblings following the successful GOMX-3 mission and represent the new generation of nanosatellite platforms. GOMX-4A is a satellite which will provide data for the Danish Defence Acquisition and Logistics Organization (DALO) and thus contribute to the monitoring of the Ministry of Defense's responsibility in the Arctic. The satellite contains radio receivers capable of capturing position signals from ships and aircraft.

Energia to Become Prime Developer of Super-Heavy Launch Vehicle System

February 2, 2018 - Energia Corporation has been designated as the developer of the Super-Heavy Space Launch Vehicle System (SH SLVS). Subcontractors include enterprises of the State Corporation Roscosmos: RSC Progress, TsENKI, etc. The SH SLVS development concept assumes that the already existing designs will be used to the maximum degree possible. Also used in the development of the super-heavy launch vehicle (LV) will be the key components and manufacturing processes of the medium LV Soyuz-5 which is currently under development. The main stages of the work on the project have been defined. During the first stage covering the period of 2018 through 2019 the SH SLVS preliminary design will be developed, the system architecture will be defined, feasibility studies will be prepared. The second stage scheduled for 2020-2028 calls for carrying out research, development, design, survey, construction and installation work. Flight tests of the super-heavy launch vehicle are scheduled to start in 2028. According to the draft statement of work the SH SLVS is to provide up-mass capability of up to 90 tons to low-Earth orbit, and no less than 20 tons to cislunar polar orbit. Development of the SH SLVS will significantly expand the capability to implement a number of advanced space programs, first of all, of lunar exploration, deep space exploration, development of space systems to counter the asteroid threat, etc.

JAXA's Successful Launch Experiment, SS-520 No. 5 Mini Rocket

February 3, 2018 - Japan Aerospace Exploration Agency (JAXA) has successfully experimented SS-520 No. 5 launch with a microsatellite TRICOM-1R aboard. The rocket about the size of a utility pole, measuring 10 meters in length and 50 centimeters in diameter, delivered its payload to its intended orbit. The SS-520 No. 5 is a three-stage rocket that is a modification of the SS-520 two-stage sounding rocket. SS-520 No. 5 launch experiment was the second attempt following the failure of SS-520 No. 4, which occurred in January 2017. Identification of the error and subsequent countermeasures resulted in the success of No.5 launch experiment. The No. 5 launch experiment was carried out to demonstrate the technology used for small satellite launcher.

China Launches Electromagnetic Satellite to Study Earthquake Precursors

February 3, 2018 - China launched its first seismo-electromagnetic satellite to study seismic precursors, which might help establish a ground-space earthquake monitoring and forecasting network in the future. A Long March-2D rocket launched from Jiuquan Satellite Launch Center, in northwest China's Gobi Desert, carried the 730-kilogram China Seismo-Electromagnetic Satellite (CSES) into a sun-synchronous orbit at an altitude of about 500 kilometers. Known as Zhangheng 1 in Chinese, it will help scientists monitor the electromagnetic field, ionospheric plasma and high-energy particles for an expected mission life of five years. Covering the latitude area between 65 degrees north and 65 degrees south, it will focus on Chinese mainland, areas within 1,000 kilometers to China's land borders and two major global earthquake belts. Zhangheng 1 was produced by DFH Satellite Co., Ltd., a subsidiary of China Academy of Space Technology (CAST).

NanoRacks Adds Thales Alenia Space to Team up on Commercial Space Station Airlock Module

February 4, 2018 - NanoRacks announced that Thales Alenia Space has been chosen as the latest partner in its commercial airlock program. Thales Alenia Space will produce and test the critical pressure shell for NanoRacks' Airlock Module, which is targeting to be launched to the International Space Station late 2019, and will be used to deploy commercial and government payloads. Thales Alenia Space will also manufacture various secondary structures, including the Micrometeoroid Orbital Debris (MMOD) shields with Multi-Layer Isolation (MLI) panels, the power and video grapple fixture support structure and other structural components. NanoRacks signed a Space Act Agreement with NASA in 2016 to install the first-ever private Airlock Module on the International Space Station. In February 2017, NanoRacks announced a partnership with Boeing to build and install the passive common berthing mechanism (PCBM), which will connect the Airlock to the rest of the Space Station. Thales Alenia Space will produce and test the pressure shell this year, then ship it to NanoRacks' Integration Facility in Houston, Texas in 2019. NanoRacks will integrate the avionics and wiring to complete the airlock assembly.

First Falcon Heavy Successfully Lifts Off

February 6, 2018 - SpaceX has successfully launched the Falcon Heavy launch vehicle into orbit, delivering its cargo, the Tesla Roadster, into orbit. The three-stage Falcon Heavy, the first heavy-lift capability launch vehicle seen in space in decades, is set to change the path of human space exploration. The three-stage reusable launch vehicle exceeded expectations during the launch – the first two stages were successfully re-landed, while the third was lost during the attempted re-land at sea due to too high speeds. SpaceX has stated that it expects to cut launch costs from tens of billions to US\$90 million with the Falcon Heavy, compared with US\$1 billion for NASA's comparable SLS rocket (currently under development). The Falcon Heavy successfully launched its ostentatious cargo, a Tesla Roadster, towards Mars; however, due to slight overthrust, the Roadster is unlikely to orbit Mars as planned. Its current trajectory is uncertain, although it could well end up in an asteroid belt.

Al Yah 3 Industry Update

February 6, 2018 - Yahsat, a leading global satellite operator based in the UAE, provides an update on the progress following the launch of the Al Yah 3 mission. Al Yah 3 spacecraft was injected into an incorrect orbit by the Ariane 5 rocket. The satellite continues to operate nominally and is in good health. Yahsat is working closely with industry experts, including the satellite manufacturer Orbital ATK, in developing a revised, optimal orbit raising strategy to achieve the intended mission and as such has initiated the orbit raising maneuvers. Al Yah 3, an all Ka-band satellite and the first hybrid electric propulsion GEOStar-3™ satellite completed by Orbital ATK. Al Yah 3 will join Al Yah 1 and Al Yah 2 in helping to empower millions of people across the Middle East, Africa, South West Asia and Brazil to access affordable Internet access via Yahsat's high-speed satellite broadband service, YahClick. Al Yah 3 will expand Yahsat's commercial Ka-band coverage to an additional 19 new markets in Africa, reaching 60% of the population. Furthermore, Al Yah 3 will serve Brazil, covering over 95% of its population. Al Yah 3 is due to begin delivering commercial services this year.

ESA and Airbus Sign Partnership Agreement for New ISS Commercial Payload Platform Bartolomeo

February 7, 2018 - The European Space Agency (ESA) and Airbus have signed a commercial partnership (PPP) agreement for construction, launch and operations of the commercial "Bartolomeo" platform. Airbus' new external payload hosting facility will be attached to the European Columbus module of the International Space Station (ISS) from mid-2019. The agreement defines the roles and responsibilities of the two PPP partners, with Airbus investing around €40 million into the development, construction and launch of this innovative platform, and ESA providing Bartolomeo's installation on the ISS. Bartolomeo will be launched in the unpressurized compartment of an ISS supply vehicle and installed using the ISS robotics system and an extra-vehicular activity. Airbus is then responsible for platform operations and payload integration. These new, commercially available opportunities are open to users world-wide, coming from areas including Earth observation, technology demonstrators, astro- and heliophysics, material science, new space flight applications and commercial missions.

e-GEOS Wins COSMO-SkyMed Contract in Australia

February 7, 2018 - e-GEOS, a joint venture of Telespazio (80%) and the Italian Space Agency (20%), strengthens its international presence with an important agreement signed in Australia for the supply of data generated by the Italian COSMO-SkyMed satellites. e-GEOS won an international bid for the supply of geo-information services to the AMSA (Australian Maritime Safety Authority), the government body tasked

with guaranteeing shipping safety and the protection of the country's marine environment, as well as the coordination of emergency operations at sea. Services shall be provided by e-GEOS through their local partner Geospatial Intelligence Pty Limited. In particular, e-GEOS will support the monitoring of oil spills thanks to the use of the COSMO-SkyMed radar constellation, which is capable of continuously controlling, in any visibility, the affected areas. The satellite data will allow for more detail in identifying illegal oil dumping in the seas and the ships causing pollution, allowing for timely intervention. The agreement also includes the evaluation of future partnerships between e-GEOS and the AMSA, for the use the satellite data in other applications, such as search and rescue operations.

Laser Link Communications Technology and Kibo Cooperative Research Agreement by JAXA, Sony CSL and Sony

February 8, 2018 - Japan Aerospace Exploration Agency (JAXA), Sony Computer Science Laboratories, Inc. (Sony CSL) and Sony Corporation made a cooperative research agreement with respect to conducting the on-orbit demonstrations of laser communications system. This research to be executed in the Kibo module on the International Space Station (ISS) aims at establishing a communications system of mass data between spacecraft and that which connects Earth and Space. Since 2016, JAXA's Space Exploration Innovation Hub and Sony have cooperatively conducted fundamental studies of the laser communications, using the precision oriented optical disc technology. Later in 2017, Sony CSL took over and has continued the fundamental research. Sony CSL and the Innovation Hub have established the laser communications technology and have developed the flight model of the optical communications module.

UAE Launches Seed Grants to Support New Research into Space Settlement & Space Habitation

February 10, 2018 - The UAE has announced a dedicated seed grant of AED2 million (approximately 500,000 euro) towards the Space Settlement Challenge. The funds will be used to bankroll proposals that explore novel ideas and develop new business models for living and working in space. The Challenge, which opened today, will solicit project proposals from diverse disciplines through a next-generation platform called "Guaana", whose innovative model dramatically reduces the time and effort required to fund seed ideas. The Space Settlement Challenge is the first project of the newly established Mohammed Bin Rashid Centre for Accelerated Research, an initiative of the Dubai Future Foundation (DFF).

140 Successful Tests and Several "Firsts" for Vinci, the Engine for Ariane 6

February 15, 2018 - The re-ignitable Vinci® engine, which will power the upper stage of the Ariane 6 launcher, has now successfully completed its last two subsystems qualification campaigns (M6 and M7) with 140 engine tests conducted. A total of 25 tests (16 for M6 and 9 for M7) were carried out under nominal conditions, and include three major performance "firsts". The purpose of these tests was also to test the Vinci® engine beyond its operational requirements, as it will only require ignition a maximum of 4 times during its missions, with a maximum burn time of 900 seconds in flight. The Vinci® engine was developed by ArianeGroup for Ariane 6 and provides the future European launcher with extreme versatility. Its main feature is its multiple ignition capability: Vinci® will be able to re-ignite in flight as many times as necessary, in order to place several payloads in orbit at different locations, according to the specific needs of the mission. This engine will enable Ariane 6 to carry out all types of missions, regardless of duration and target orbit, particularly the deployment of satellite constellations, for which demand will continue to grow.

Clyde Wins Strategic Launch Contract

February 16, 2018 - Clyde Space, a subsidiary of ÅAC Microtec AB has won its first launch contract. This order from the Israeli pioneering company NSLComm is a follow-on order from an initial 6U Satellite purchase. The contract is of strategic importance for the group, marking a key milestone as its first end-to-end mission delivery. ÅAC – Clyde set to deliver a full end-to-end mission service package, from spacecraft design, manufacture, launch, on orbit to operations to NSLComm's data provision. A successful mission could potentially lead to larger constellation orders. With the launch confirmed for the end of 2018 this mission is set to revolutionize the space communications network with the introduction of an innovative, patented high-performance antenna. The ÅAC – Clyde 6U spacecraft, NSLSat1, will demonstrate this highly disruptive technology providing Ka-band communications from space. This ground-breaking dish-shaped antenna which deploys itself once in space is set to inspire a wide array of new applications within the industry.

Lockheed Martin Completes Assembly on Arabsat's Newest Communications Satellite

February 20, 2018 - A new, high-capacity communications satellite that will deliver TV, internet and mobile phone services to the Middle East, Africa and Europe is one step closer to launch. Lockheed Martin has completed assembly on the Arabsat-6A satellite, which was recently shipped to its Sunnyvale, California facility to begin a comprehensive series of tests to ensure the satellite is ready for operations in orbit. Arabsat-6A is part of the two-satellite Arabsat-6G program for Arabsat and is the second of Lockheed Martin's modernized LM 2100 series satellites to complete assembly. The other satellite in the Arabsat 6G program, Hellas Sat 4/SaudiGeoSat-1, recently completed assembly and was also shipped to Sunnyvale in November of 2017 for testing.

Airbus-built PAZ Radar Satellite Successfully Launched

February 22, 2018 - PAZ radar satellite has been successfully launched from Vandenberg Air Force Base, in California, USA. Ten minutes after launch, the satellite separated from the launcher and will soon be positioned at its 514 km orbit. First contact with the satellite was established from the DLR Ground Control Centre in Germany, where Airbus engineers are supporting the Launch and Early Orbit Phase (LEOP) to check out and configure the satellite, ensuring that all satellite critical systems and communications are functioning as planned. The satellite will be operated by INTA and Hisdesat (owner of the satellite) technical teams. PAZ is equipped with advanced active SAR (Synthetic Aperture Radar) technology designed for high flexibility and the capability to operate in multiple modes with different image sizes and resolutions. It will take images 24/7 and in all weather conditions. PAZ is designed for a mission life time of five and a half years, serving both Spanish government and commercial needs.

SpaceX Launches Small Satellites ahead of Starlink

February 22, 2018 - SpaceX has successfully completed another launch, this time of a Spanish radar satellite called Paz, and two smaller satellites which are the most recent step towards Elon Musk's planned low Earth orbit (LEO) constellation. Musk's Starlink plan will see 4,425 interlinked satellites launched into orbit 700-800 miles above the Earth, in addition to 7,500 more satellites into lower orbits. The constellation, which will provide global Internet coverage, has yet to be approved by the FCC. The Falcon 9 delivered the Microsat-2a and Microsat-2b satellites into orbit in order to test certain aspects of Starlink.

SpaceChain Successfully Launches First Blockchain Node into Low Earth Orbit

February 23, 2018 - On Feb 2, 2018, SpaceChain launched its first blockchain node into orbit. The satellite was carried by CZ-2D rocket from Jiuquan Satellite Launch Center in the Gobi desert, China. It was equipped with a Raspberry Pi hardware development board that runs a full-node program on the Qtum blockchain. This launch could go down in history as the beginning of a new era in privately funded space exploration. There is no doubt that SpaceChain is entering an area that has been nearly inaccessible for most organizations, and there is no telling where this decentralized, open source space program could lead. Land-based blockchain nodes allow for an incredible amount of data transfer and raw computational ability. But, when it comes to allowing communication with distant places that aren't connected by existing telecom networks, satellites are the only option.

GRICAS Project at the Heart of an Aviation Safety Demonstration in Dakar

February 23, 2018 - Thales Alenia Space is at the heart of an in-flight demonstration of aviation safety, carried out within the scope of the H2020 GRICAS project, conducted by Thales Alenia Space in partnership with French space agency CNES, as well as PILDO Labs, and ECA. It is based on Thales Alenia Space's MEOLUT Next solution. The aim of this demonstration was to demonstrate how a second-generation SAR (Search & Rescue) beacon could independently detect an abnormal situation in flight, and be automatically activated. MEOLUT Next is today the only MEOLUT in the world capable of processing second-generation beacons in real time. It offers in-flight independent position determination accuracy comparable to that of a GNSS receiver, despite the fact that it is independent and the platform is moving at high speed. This test also shows the high efficiency of the second-generation beacons developed through the GRICAS project, since it is still the only beacon of this generation proven in flight.

Airbus is developing the CIMON Astronaut Assistance System for the DLR Space Administration

February 26, 2018 - Airbus, in cooperation with IBM, is developing CIMON (Crew Interactive MObile CompanioN), an AI-based assistant for astronauts for the DLR Space Administration. The technology demonstrator, which is the size of a medicine ball and weighs around 5 kg, will be tested on the ISS by Alexander Gerst during the European Space Agency's Horizons mission between June and October 2018.

CIMON is designed to support astronauts in performing routine work, for example by displaying procedures or – thanks to its ‘neural’ AI network and its ability to learn – offering solutions to problems. It uses Watson AI technology from the IBM cloud and, with its face, voice and artificial intelligence, becomes a genuine ‘colleague’ on board. With CIMON, crew members can do more than just work through a schematic view of prescribed checklists and procedures; they can also engage with their assistant. In this way, CIMON makes work easier for the astronauts when carrying out every day routine tasks, helps to increase efficiency, facilitates mission success and improves security, as it can also serve as an early warning system for technical problems.

Lockheed Martin Completes Foundation for Satellite Factory of the Future

February 27, 2018 - The foundation for Lockheed Martin's satellite production factory of the future has been completed. The Gateway Center construction is making rapid progress and is on track for its completion in 2020. The project recently reached a significant milestone, when the construction team began installing vertical structural steel. The \$350 million, 266,000 square foot building will incorporate multiple features under one roof, and is designed to streamline satellite production and increase cost savings for both government and commercial customers. The building will house an ISO Class 8 high bay cleanroom, an anechoic chamber, and a large thermal vacuum chamber to conduct dynamic endurance tests on the satellites. The Gateway Center will be capable of producing multiple satellites at the same time. Embedded functions of the building will reduce satellite production processes from days to mere hours. The building is value engineered and will integrate industry best practices for satellite manufacturing.

NSLComm to Launch the World's Highest Throughput Nanosat into LEO in November 2018

February 28, 2018 - Enabling a new era of high-throughput nanosats (HTNs), NSLComm will deploy a unique satellite that takes advantage of its one-of-a-kind expandable, and flexible spacecraft antenna to offer data rates up to 100x more than current nanosats. Designed to accommodate the deployment of a non-rigid reflector that is bigger than any other antenna, the NSLSat-1 will deliver unheard of data rates for a nanosat and supercharge an industry “stuck” in narrowband communications. Currently, nanosats offer less than 10 Mbps in low-Earth orbit (LEO) and mainly provide earth observation, science experiments, or other non-communications services. NSLSat-1, however, will deliver high-capacity footprints up to 1 Gbps and elevate LEO capabilities for a wide range of applications from narrowband to end-to-end constellations facilitating robust commercial and government applications.

EXECUTIVE MOVES

Industry Veteran Ed Spitler Rejoins Artel as Head of SATCOM

February 1, 2018 - Artel, LLC has appointed Ed Spitler as Head of SATCOM after his return to the company following 4 years as President of Airbus Defense and Space Government Services. A seasoned veteran of the telecommunications and satellite communications industries, Spitler brings to Artel more than 25 years of senior executive-level experience in military, government, and satellite operations. As Artel's Head of SATCOM, Spitler will be responsible for leading all aspects of Artel's SATCOM programs, including operations, P&L, strategic planning, business development, and technical functions. Spitler is well known in the telecommunications and satellite communications industries and is often called upon for expert advice in U.S. Government procurement practices. During his previous, 11-year tenure at Artel, Spitler held the position of Vice President of Managed Network Services, serving as program director on major satellite communications contracts.

SES Announces Appointment of Steve Collar as President & CEO and Andrew Browne as New CFO

February 12, 2018 - The Board of Directors of SES announces its decision to appoint a new President & CEO and a new CFO of SES with effect from 5 April 2018. Steve Collar, who is currently CEO of SES Networks, has been appointed as the next President & CEO of SES, becoming CEO Designate with immediate effect. Andrew Browne, who was until recently CFO of O3b Networks and CFO of SES between 2010 and 2013, has been appointed as the next CFO of SES, becoming CFO Designate with immediate effect. The other members of the Executive Committee, being Ferdinand Kayser (CEO SES Video), Christophe De Hauwer (Chief Strategy and Development Officer), Martin Halliwell (Chief Technology Officer), Evie Roos (Chief Human Resources Officer) and John Purvis (Chief Legal Officer), all remain in place. A successor to Steve Collar as CEO of SES Networks will be appointed in due course.

Globecomm Names Jeff Garte as CFO

February 13, 2018 - Globecomm announced Jeff Garte has joined their executive team as Chief Financial Officer, reporting to Chief Executive Officer Jason D. Juranek. In this role, Mr. Garte will lead Globecomm's financial aspects of the company, including accounting, tax, financial planning and analysis, treasury and IT, required to support continued growth. He will also assist the executive team in executing on existing and supporting new growth strategies. Garte has more than fifteen years of financial and operational experience in public and private companies. Prior to joining Globecomm, he served at Hibernia Networks for nearly four years as the senior vice president of corporate development, managing corporate development, FP&A, and procurement. Before Hibernia, Garte was VP of FP&A at Sterling Infosystems, where he built a high-performing centralized FP&A team. He also served as VP of finance at AboveNet, where his responsibilities included corporate development, FP&A, investor relations, project cost management and procurement.

Arianespace Appoints Vivian Quenet as its new Managing Director in Singapore

February 15, 2018 - Arianespace has named Vivian Quenet as its new Managing Director and Head of Sales for the Asia-Pacific region, effective today. In taking up the position at Arianespace Singapore Pte Ltd, Quenet will be in charge of the development and consolidation of Arianespace's commercial and government relations across the region, with the focus on ASEAN countries. Quenet brings nearly 20 years of experience in the satellite communications industry. Prior to joining Arianespace, he was the Vice President and Managing Director, Asia-Pacific for KVH Industries Pte Ltd, a position he held for seven years with this maritime satellite communications company. He previously worked for France Telecom Mobile Satellite Communication/Vizada/Marlink, a global provider of satellite communications services; first as Sales Director for Europe, based in Paris for six years, and then as Head of Asian offices and Sales Director for the Asia-Pacific, based in Singapore, also for six years. In his new role at Arianespace, Quenet takes over for Richard Bowles, who retires after more than 30 years of working with Arianespace. Bowles opened Arianespace's Singapore office in 1996 and managed it for 22 years.

AsiaSat Names Lara Kwon as New Vice President of Business Development & Strategy

February 20, 2018 - AsiaSat has announced a promotion in its business development and strategy team. Lara Kwok, who joined AsiaSat in August 2017 as Director of Business Development and Strategy, has been promoted to Vice President, Business Development and Strategy, following the retirement of Sabrina Cubbon after 25 years of significant contributions to AsiaSat. Lara brings 13 years of experience in private equity and investment banking, and in her new role, she will identify new business opportunities and drive strong strategic direction for business expansion and development of the company. Prior to AsiaSat, she was employed by The Longreach Group between 2007 and 2015 as Principal of the Greater China investment team and before that, held various positions in global investment banks in New York and Hong Kong.

Tanya Ramond Joins BridgeSat as Director of Product Management

February 27, 2018 - BridgeSat announced that optics, laser and aerospace specialist Tanya Ramond has joined the company as director of product management. Ramond's 23-plus years of market analysis, engineering management and hands-on R&D work will help BridgeSat revolutionize global communications with a free-space optical network for low earth orbit (LEO) and geostationary earth orbit (GEO) satellites that's faster and less expensive than traditional radio frequency (RF) solutions. Ramond joins BridgeSat from Sapienne Consulting, which she founded to provide technology strategy, product road mapping, market feasibility analysis and other services to clients in industries including optics, laser and aerospace. She also served as CTO of York Space Systems.

AsiaSat Appoints Michael Chan as New Director of Business Development and Strategy

February 27, 2018 - AsiaSat has announced a new appointment in its business development and strategy team, with a focus on formulating strategic directions, business planning and development for the company. Michael Chan has joined as Director of Business Development and Strategy, tasked with fulfilling the role left by Lara Kwok who was promoted to Vice President of the team earlier this month. Michael possesses more than 15 years of experience in the TMT sector, where prior to AsiaSat, he was employed by Emperor Motion Pictures as Director of Corporate Development and held senior positions at media as well as investment management companies.

REPORTS

Evolving Competitive Environment for FSS Operators Forces Adaptation

February 6, 2018 - According to Euroconsult's newly-published report, FSS Operators: Benchmarks & Performance Review, the size of the FSS market has been relatively stable over the last five years (\$11.3B), but behind this total significant change have played out. The market share of the top four operators has gradually eroded to 60%, while three new companies (YahSat, Thaicom and Insat) have joined the top ten. Twelve new players have emerged in the past five years including three in 2017 (BRI, BulgariaSat and Telebras) for a total of 46 revenue-generating operators at year-end 2017.

NSR's China Satcom Markets Report Forecasts Aggressive Chinese Exporting

February 13, 2018 - NSR's industry-first China Satcom Markets (CSM) report finds a Chinese satellite industry primed to take a larger share of the global satcom market through attractive one-stop-shop offerings, aggressive growth plans and enhanced exports. For GEO-HTS satellites alone, NSR forecasts Chinese state-owned companies to manufacture and launch over 800 Gbps of capacity by 2026, with much of this coming over Southeast Asia, East Asia, and South Asia. Since the end of the cold war, the satellite and space industry has been a duopoly between the United States and EU, with other players such as Russia, Japan, and now India playing a secondary role. At some point soon, however, it appears likely China will assume a position as a top tier space nation globally, with significant ramifications for the satellite telecoms industry.

In-Orbit Servicing Markets (IoSM)

February 20, 2018 - NSR's industry-first In-Orbit Servicing Markets (IoSM) study dives into the market dynamics and challenges shaping this nascent industry and its future potential. IoSM evaluates the value proposition of core IoS applications for different customer types, providing a global market revenue and addressable market demand forecast for each application in the 2017-2027 period.

UPCOMING EVENTS

ABU Digital Broadcasting Symposium 2018, 5-8 March, Kuala Lumpur, Malaysia, <http://dbs.abu.org.my>

Convergence India 2018, 7-9 March, New Delhi, India, www.convergenceindia.org

Convergence India is the only platform in India which demonstrates convergence of technologies in Telecom, IT, Broadcast & Digital media sectors. The three-day exhibition and concurrent conference sessions provides an excellent networking opportunity for speakers, visitors and delegates. This platform attracts high quality exhibitors to showcase their expertise and identify the thriving business opportunities in India.

Satellite 2018, 12-15 March, Washington DC, USA, www.satshow.com

Asia Pacific Maritime, 14-16 March, Singapore, www.apmaritime.com

Telecoms World Asia 2018, 19-20 March, Bangkok, Thailand, www.terrapinn.com/conference/telecoms-world-asia/

Broadband TV Connect Asia, 24-25 April, Bangkok, Thailand, <https://tmt.knect365.com/broadband-forum-asia/>

Broadband TV Connect Asia brings together the Digital TV and Broadband communities to learn, network and collaborate. Two defined tracks of content will tackle current challenges in network upgrade and digital TV transformation, while curated networking events will give you time to connect with both communities and understand how they are becoming increasingly converged; as operators struggle with increased consumer demand driven by video, and media is faced with challenges of digital delivery. Free tickets available for operators, apply now.

MilSatCom Asia-Pacific 2018, 14-15 May, Singapore, <http://www.milsatcomasia.com/APSCC>

SMI's 8th annual MilSatCom Asia Pacific conference will explore the increasing investment in Space and

SatCom assets throughout the Asia-Pacific region, focusing on protected and tactical requirements facing the region, how capability gaps are cost-effectively being fulfilled through COTS procurement strategies and international cooperation, the utilisation of SatCom assets for civilian purposes in the region such as humanitarian and disaster response, and much more.

KOBA 2018, 15-18 May, Seoul, Korea, www.kobashow.com

Australasia Satellite Forum 2018, 22-23 May, Sydney, Australia, www.talksatellite.com/EVENTS.htm

VIETNAM ICTCOMM 2018, 7-9 June, Ho Chi Minh City, Vietnam, www.ictcomm.vn/en/home

CASBAA Satellite Industry Forum, 25 June, Singapore, www.casbaa.com/events/list/

CommunicAsia 2018, 26-28 June, Singapore, www.communicasia.com

ConnecTechAsia Summit, 26-28 June, Singapore, www.connectechasia.com

ConnecTechAsia Summit is the pinnacle where over 150+ regional thought leaders industry and influencers meet to share about the driving forces of today's interconnected ecosystem. Covering 3 tracks on **NetworkComms**, **BroadcastMedia** and **EmergingTech**, the Summit themed **"Digital Business Transformation"** will feature a dedicated session on **Satcomm (Day 1)** covering topics such as industry analysis, satellite for 5G, LEO-GEO-MEO, spectrum wars and new standards for IoT, plus new business partnerships to drive innovation and business growth. Quote 'APSCC' to enjoy 15% discount off the registration fees! (*discount not applicable to Passports)

Defence Satellites, 5 -7 June, Paris, France, www.intelligence-sec.com/events/defence-satellites-2018

IBC 2018, 14-18 September, Amsterdam, the Netherlands, <https://show.ibc.org/>

VSAT Global 2018, 18-21 September, London, U.K., <https://tmt.knect365.com/vsat-global/>

Broadcast Indonesia 2018, 24-26 October, Jakarta, Indonesia, www.broadcast-indonesia.com

Global MilSatCom 2018, 6-8 November, London U.K., <https://www.smi-online.co.uk/defence/uk/global-milsatcom>

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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.