

APSCC Monthly e-Newsletter

DECEMBER 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.apsc.org.kr. To unsubscribe, send an email to info@apsc.org.kr with a title "Unsubscribe."

News in this issue has been collected from November 1 to November 30.

INSIDE APSCC

APSCC Looks for New Senior Executive

Seong Joong Kim Retires as Executive Director of the Asia-Pacific Satellite Communications Council after Serving Eight Years in Leadership Post

December 5, 2018 - The Asia-Pacific Satellite Communications Council (APSCC) has announced that Seong Joong Kim, who has led the Organization for 8 years, will retire in early 2019 and the Organization has formed a committee to commence a wide ranging search for a candidate to take on the leadership of the Organization. This Succession Planning Committee, will review applications, interview candidates and make recommendations to the APSCC Board of Directors.

"On behalf of the Board of Directors, we would like to express our appreciation for Dr. Kim's dedication to the APSCC," said Gregg Daffner, President of APSCC. "APSCC has established a Succession Planning Committee to ensure that the Organization continues to harness and expand the promotion of satellites for communications and other commercial services throughout Asia through the new leadership role."

The APSCC Board has directed the President and the Succession Planning Committee to use this opportunity to seek a leader for APSCC whose main goal will be to actively engage the APSCC on behalf of its members to take a more prominent role in the rapidly changing Asian space industry with a special focus on key regulatory and market assess issues as well as an expansion of APSCC membership into new space and other emerging commercial space endeavours.

Dr. Kim will continue to serve APSCC as the Executive Director until end of March 2019. Details of the applications for the new leadership position will be announced on the APSCC webpage.

Join APSCC Session at PTC'19, the Internet of Things (IoT)

22 January 2019, Honolulu, Hawaii, USA, <http://apsc.org.kr/event/>

Title: Satellite and the Internet of Things (IoT)
Date: Tuesday, 22 January'19 (1530 – 1645)
Venue: Hilton Hawaiian Village Waikiki Beach Resort, Honolulu, Hawaii
Moderator: Christopher Baugh, President, NSR
Gregg Daffner, CEO, Gapsat; President, APSCC
Speaker: Bryan Eagle, VP Business Development, Astrocast SA
Scott Larson, CEO, Helioswire
Harim Byeon, Engineer, KTSAT
Rob Kamerling, Business Development Manager, Hiber

APSCC members can enjoy discounted rate when PTC'19 registration. Please contact info@apsc.org.kr if any inquiries.

SATELLITE BUSINESS

Gilat to Provide the Ground Network for China Satcom's ChinaSat-18

November 1, 2018 - Gilat Satellite Networks Ltd. announced that Gilat's ground network will be provided for China Satcom's ChinaSat-18 (CS-18). The nationwide Ka-band coverage now to be provided by CS-18 and ChinaSat-16 (CS-16) will be uniquely supported by Gilat's single platform supporting multiple applications all over China. China Satcom's CS-18 Ka-band will be launched in mid-2019, thus completing the company's Ka HTS coverage over all of China, which is critical for broadband applications requiring continuous service. Gilat's multi-application platform, SkyEdge II-c, has been deployed in China over CS-16 to provide IFC, rural broadband, cellular backhaul and maritime applications. With the launch of CS-18, Gilat will deliver Ka-band high throughput and highly efficient connectivity across the rest of China.

Garuda Indonesia Selects High-speed Inmarsat GX Aviation Inflight Broadband

November 1, 2018 - Indonesian national airline Garuda is to provide Inmarsat's award-winning GX Aviation inflight broadband service to passengers through an agreement with Mahata Aero Teknologi (MAT), an Indonesian wireless technology provider. Garuda Indonesia will equip its domestic and international aircraft fleets with GX Aviation, working in partnership with Inmarsat, Lufthansa Technik, Lufthansa Systems and MAT, to allow passengers to seamlessly browse the internet, stream videos, check social media and more during flights. The MoU with Garuda Indonesia, a Skytrax 5-Star Airline, marks an extension of MAT, Inmarsat, Lufthansa Technik and Lufthansa Systems' existing 10-year contract with low-cost carrier Citilink, also part of the Garuda Indonesia Group, to provide world-class inflight broadband powered by GX Aviation. The service is scheduled to launch next year.

India's Leading State-owned Oil Companies Select Hughes India to Enable Retail Automation

November 1, 2018 - Hughes Communications India announced that India's leading state-owned oil companies have selected its JUPITER satellite broadband system to automate retail networking nationwide. Under separate contracts, Indian Oil Corporation (IOCL), Bharat Petroleum Corporation Ltd. (BPCL) and Hindustan Petroleum Corporation Ltd. (HPCL) will each use the JUPITER system to upgrade network connectivity across 19,000 locations collectively to increase speed of transactions, eliminate manual interference and deliver accurate, real-time data across the retail operations. In addition to the JUPITER system, BPCL has also selected the HughesON Managed SD-WAN solution to provide application-level diversity with VSAT and 4G connectivity paths providing a stable, scalable, always-on network. The update is also expected to ease data collection from various loyalty schemes, discount schemes and credit card transactions.

SKY Perfect JSAT Awards Gilat Project for Mobility and Fixed Broadband Services in Japan

November 5, 2018 - Gilat Satellite Networks announced that SKY Perfect JSAT Corporation (JSAT) awarded Gilat a multi-million US dollar project for its new mobility and fixed broadband service in Japan. The new set of services enabled by Gilat will support JSAT's growth plans. Incorporating multiple applications over a single network, the project is based on Gilat's SkyEdge II-c, which provides a single platform for a variety of fixed and mobility services and will provide new levels of speeds and performance. The solution also incorporates redundant primary and secondary sites to deliver the high availability and reliability necessary for critical needs. Multiple use cases are supported including services for government, utilities, banks and hospitals, as well as broadband connectivity for several mobility applications such as emergency response vehicles and on-the-move news and media cars.

Hughes to Support U.S. Coast Guard Airborne Communications

November 5, 2018 - Hughes Network Systems was selected by the U.S. Naval Air Systems (NAVAIR) to provide SATCOM systems integration for the U.S. Coast Guard. Under the agreement, Hughes, supporting through its partner, ADS, Inc., will integrate communications systems in support of the Coast Guard's Intelligence, Surveillance and Reconnaissance (ISR), humanitarian aid and disaster relief (HADR) missions requiring airborne Communications-on-the-Move (COTM). Hughes will provide SATCOM integration for the missionized C-27J aircraft which will connect mobile units across a wide geographic area including over the United States, Canada, Mexico, and the Pacific Ocean. The broad operational regions require proven Beyond-Line-of-Sight (BLoS) system integration expertise to coordinate hardware functions on the C-27J aircraft including antennae, modem, engineering services and technical training. For this contract, Hughes will deliver cost-effective mobility solutions that will provide multi-mission support including drug interdictions, border control enforcement and search and rescue efforts (SAR) for the agency.

CETel Further Expands its O3b/MEO Coverage

November 7, 2018 - CETel, a leading German service provider of global managed end-to-end communications solutions, has signed another contract to deliver fibre-like connectivity into Africa utilizing medium earth orbit (MEO) satellite constellation O3b. The long-term contract supports a leading African-wide operating communications and technology solutions provider to further expand their network across Africa. It will serve various vertical markets, such as Mining, Corporate, Construction, Telco/ICT and Government. Low-latency paired with maximum availability has been key drivers in the decision for the MEO solution. After connection of multiple sites, CETel further expands its operational MEO coverage, that is now spanning the African continent. CETel will continue to work towards a connected world providing global hybrid networks consisting of GEO, MEO, Fibre-Architectures, to cater for the ever-growing demand for data and connectivity solutions.

Kratos Completes Third Milestone in Critical Deployment Study for USA Air Force Satellite Enterprise Ground Services

November 7, 2018 - Kratos Defense & Security Solutions has successfully completed the third phase of a pathfinder study for migrating the Command and Control System – Consolidated (CCS-C) ground system to the Enterprise Ground Services (EGS) architecture. CCS-C currently operates a fleet of over 20 Military Satellite Communications (MILSATCOM) satellites in four different constellations. In phase 3, Kratos demonstrated the automated deployment of the MILSATCOM EGS (MEGS), using virtualized applications on the Space and Missile Systems Center (SMC)-provided Cooperative Research and Development Agreement (CRADA) Supply Chain Risk Management (SCRM) infrastructure hosted at the Space Management Battle Lab (SMBL). After successful deployment, the team demonstrated Kratos' web-based user interface and automation capabilities. Traditionally, ground system capabilities take months or even years to deploy and test, however, with automated software deployment and dynamic allocation of resources employed by the Kratos team based on the EGS principles of deploying in a modern IT environment, the demonstration took less than ten minutes. This dynamic allocation of ground resources demonstrates the portability, resiliency and elasticity of the MEGS.

We are IT Philippines Inc. and Forsway Partner to Deploy Satellite Broadband Services

November 8, 2018 - Forsway, a leading global specialist of innovative solutions for providing high quality broadband services to underserved regions via satellite, announced it is partnering with We are IT Philippines, Inc. / WIT Philsat for their first joint project in the Philippines. The two companies are combining their expertise to help DICT facilitate and deliver on roll-out of the "Juan Konek Free Wi-Fi in Public Places Project". Forsway and WIT PhilSat are furnishing the government-sponsored project with rapid deployment of cost-efficient satellite broadband services and expertise from WIT PhilSat, enabled by next generation Odin F-50 satellite routers from Forsway and IPSTAR satellite capacity. The partners are providing tools and technology enabling the Philippines' aim to close the digital divide. Roll-out has started with the first sites in the southern island of Mindanao – with the project aimed at enhancing Internet accessibility for Filipinos to accelerate economic, social and educational opportunities and supporting an "Internet for all" strategy. Free public Wi-Fi is being made available in public plazas and parks; public libraries, schools, colleges and universities; rural health units and government hospitals; train stations, airports, and seaports; and national and local government offices.

Newtec to Power NIGCOMSAT's Ka Broadband Services

November 12, 2018 - Newtec announced its technology will be used by leading satellite operator NIGCOMSAT as it expands its enterprise, government and consumer Ka-band broadband services in Nigeria. Following on from its continued success with Newtec's VSAT platform Newtec Dialog®, NIGCOMSAT – which was founded in 2006 by the Nigerian Federal Ministry of Communication Technology – will now deploy a second hub and thousands of Newtec's MDM2210 IP Satellite Modems and MDM2510 IP Satellite Modems. Newtec's long-term certified business partner, Content Oasis Ltd., will be a system integrator, maintaining the Newtec Dialog platform and the modems installed for NIGCOMSAT. As a multiservice VSAT platform, Newtec Dialog enables operators to build and adapt satellite networking infrastructures according to specific needs. With Newtec's modems, a choice of three return technologies is provided, including MF-TDMA, SCPC and Newtec's unique, dynamic Mx DMA® which combines the best qualities of both to provide dynamic bandwidth allocation with the highest level of efficiency.

ND SatCom Launches its New Solution "SMART MOBILE² NETWORKS"

November 12, 2018 - ND SatCom's SMART MOBILE² NETWORKS provide efficient, secure and reliable

connectivity for mission- and business-critical communications anywhere. ND SATCOM's SMART MOBILE² NETWORKS provide efficient, secure and reliable connectivity for mission- and business-critical communications anywhere, targeting mobile 5G/LTE users in a mobile infrastructure. SMART MOBILE² NETWORKS are optimized for the military, governments, coastguards, first responders and enterprises: phone-to-phone via single hop; extension to public or stand-alone network; quick deployable cells for dynamic ad hoc networks.

Telecom Operators across Africa Select Hughes JUPITER System to Enable Satellite Connectivity

November 12, 2018 - Hughes Network Systems announced three African telecom companies have selected the Hughes JUPITER System to power delivery of satellite broadband services for their customers. Botswana Telecommunications Corporation, Satcom Networks Africa Limited (SatCoNet) and a leading East African telecommunications company each chose the JUPITER System based on its high performance, operational efficiency and better customer experience. Botswana Telecommunications Corporation is using the JUPITER System to expand its high-speed business broadband service in Botswana. The first phase of deployment includes hundreds of remote terminals connecting businesses and homes. SatCoNet, the only native VSAT operator in Tanzania, also chose the JUPITER System to improve their service offering for the market with improved performance, better throughput and a better experience for their customers. One of the largest telecommunications companies in East Africa will implement the JUPITER System for video and broadband service in schools. The technology refresh begins with 1,000 sites, improving high-speed satellite performance and evolving their solution to meet growing demand.

Intelsat and Vodacom Mozambique Expand Mobile Connectivity

November 12, 2018 - Intelsat announced that Vodacom Mozambique has signed an agreement for a satellite solution that will provide 3G services that uniquely satisfy the growing data demand generated by the tourism sector. Under a multi-year agreement with Vodacom International, Intelsat has upgraded a network operated by Vodacom Mozambique using the Intelsat Epic high-throughput satellite platform. The solution delivers 3G services to Pomene, in southern Mozambique. Pomene has become an important tourist destination for the country, and as it attracts more visitors and cruise ships, the mobile network infrastructure needed to be rapidly and cost-effectively upgraded to meet increased demand. Intelsat was able to address all of Vodacom Mozambique's concerns - improving the network's capabilities and delivering a better connectivity experience in a cost-effective manner - due to the higher performance and better economics delivered by Intelsat Epic^{NG}. Intelsat's service has proven efficient, Vodacom Mozambique was able to expand the network to cover tourist lodges in Pomene, unlocking a new revenue stream for the operator.

Speedcast Expands Services around the Globe for Schlumberger

November 12, 2018 - Speedcast International Limited has been awarded multi-year contracts in multiple countries to enhance existing global services for Schlumberger, the world's leading oilfield services provider. The newest improvements include equipment and network upgrades leveraging the latest in modem and terminal technologies in countries such as Pakistan, China, Australia and New Zealand, adding to an extensive list of global network enhancements awarded earlier in 2018 by this customer. Technology upgrades for sites in Latin America as well as secure network upgrades and new services commissioned in the Gulf of Mexico, Southeast Asia, Europe, Middle East and Sub-Saharan Africa further demonstrate the strength of the global partnership between the two companies, which have been working together for over 10 years in the most challenging remote and harsh environments.

Panasonic Avionics and RSCC to Deliver Enhanced Connectivity across Eurasia

November 12, 2018 - Panasonic Avionics Corporation (Panasonic) and the Russian Satellite Communications Company (RSCC) have partnered to provide inflight connectivity (IFC) services over the Eurasia region. The services will be provided via RSCC's state-of-the-art Express-AM5 and Express-AM6 Ku-band satellites. As part of the partnership, Panasonic has entered into an agreement with Altegrosky Group for the provision of infrastructure that enables Panasonic to provide inflight entertainment and connectivity (IFEC) services via the Russian satellites. The network will be managed via Altegrosky's Network Management teleports (NMCs) in Moscow and Khabarovsk. Landing transit traffic at these NMCs will be delivered to the link up station with the MMTS9 operator via terrestrial communication channels.

Thuraya's X5-Touch Satellite Smartphone Launches Soon

November 13, 2018 - Thuraya Telecommunications Company announced that the world's first satellite

smartphone, the Thuraya X5-Touch would be available for commercial distribution in less than a month. An industry first, the Thuraya X5-Touch runs on the Android Operating System and has a 5.2" full HD touchscreen. It targets users who frequently move in and out of terrestrial coverage across a range of market sectors including government missions, energy projects, enterprise communications, and NGO deployments. The phone offers fast and simple connectivity on the move, in remote areas normally beyond the reach of smartphones. The Thuraya X5-Touch is equipped with full dual-mode and dual-SIM capabilities and with its dual-active mode; it has the ability to have both its satellite and GSM (2G, 3G, or 4G) modes 'always on' simultaneously.

Arabsat and Forsway Team up to Roll-out Affordable Satellite Broadband Services across Africa

November 13, 2018 - Arabsat and Forsway, a global specialist in providing innovative satellite broadband solutions, announced the deployment of affordable satellite broadband services across Africa under the new Arabsat Broadband package. In their first collaboration for Africa, the partners have teamed up to create a managed resource to deliver highly affordable broadband based on Arabsat capacity and hardware from Forsway. The regional service model was designed and implemented by satellite services consultants at Developing Infrastructure. In partnering to provide broadband to underserved regions, the companies are bringing together the unique combination of resources and expertise to help foster growth across the continent. Internet services will provide critical access to community services, education, health information, business opportunities, entertainment and more.

NBN Co to Boost Sky Muster with Unmetered Content, Speed Bursts- and Layer 3 Management

November 13, 2018 - NBN Co and the Federal Government of Australia have unveiled plans to offer a premium Sky Muster service next year which will allow speed bursts over the nominal 25Mbps limit and extend unmetered data to arrange of standard internet use cases such as web browsing, online banking and software updates. The enhancements have effectively been endorsed by the de facto Sky Muster users group, Better Internet For Rural, Regional And Remote Australia, whose convener Kristy Sparrow played a part in the official announcement in Canberra yesterday alongside government and NBN representatives. More intriguing, the new Sky Muster Plus service - as it will be known - appears to be a full Layer 3 managed service, with NBN Co providing backhaul, IP transit and its virtual connectivity circuit (CVC) construct in the new offer.

Inmarsat Signs Honeywell Aerospace as Global Reseller of GX Aviation Inflight Broadband Solution

November 14, 2018 - Inmarsat has expanded its global network of Value Added Resellers (VARs) for its GX Aviation inflight broadband solution with the addition of Honeywell Aerospace. The agreement builds on Inmarsat's long-standing partnership with Honeywell, who already manufactures the JetWave hardware for GX Aviation and sells Inmarsat's Jet ConneX inflight wi-fi service for the business aviation market, through its GoDirect retail services business. In addition, it is further endorsement of Inmarsat's commitment to operate the reference inflight connectivity network for airlines around the world. As part of the agreement, Honeywell will now market GX Aviation to airlines worldwide through its rapidly growing GoDirect retail services business. This increases the company's focus on end users, allowing it to tailor smart connectivity solutions directly to individual customers - whether in the airline or business aviation space. In addition, Honeywell will continue to manufacture and sell the JetWave hardware to airline and business aviation customers.

Gilat's Dual-band Aero Terminal Receives DO-160 Certification

November 14, 2018 - Gilat Satellite Networks Ltd. announced that its dual-band aero terminal has passed the standard for the environmental testing of avionics hardware and received the DO-160 certification. Gilat's Ku/Ka AeroEdge 6000, a complete aero terminal is now ready to install in all commercial aircraft, providing opportunities to HTS operators, IFEC service providers and airlines who want to leverage IFC opportunities with the flexibility to use both the Ku or Ka bands. The AeroEdge 6000 is a high performance, highly efficient terminal able of operating in both Ka and Ku bands, providing satellite broadband communication for high-speed Internet and multimedia applications for commercial airlines.

Arabsat to Deliver RigNet's CyphreLink Services to Secure Satellite and Terrestrial Networks

November 14, 2018 - RigNet, Inc. has signed a memorandum of understanding with Arabsat, the leading satellite communications group in the Middle East and North Africa, to provide the most comprehensive data protection across the Arabsat satellite network. In partnership, RigNet and Arabsat will target the immediate and growing cybersecurity threat of satellite eavesdropping and network data breaches.

Arabsat will begin offering RigNet's CyphreLink to provide military-grade encryption for location to location communications over satellite and terrestrial networks. CyphreLink™ is an innovative cybersecurity service that provides full data protection with virtually no impact on network latency or performance over satellite or terrestrial networks. The hardware-based encryption enables military-grade data security, with little to no overhead on the payload. CyphreLink prevents eavesdropping and potential data breaches.

Inmarsat Enhances Cyber Security Offering for Maritime Industry

November 15, 2018 - Inmarsat has introduced two new components to its maritime cyber security service, Fleet Secure, as it continues to develop solutions that combat ever-increasing cyber threats faced by ship owners and ship managers. Vessel operators will benefit from a powerful, multi-layered endpoint security solution, Fleet Secure Endpoint, which is based on industry leading technology from ESET, a world leader in digital security, and powered by Port-IT and protects desktop computers and other systems connected to a vessel's network. Fleet Secure Endpoint has been developed to remove infections and thwart hackers before damage occurs to onboard endpoints and connected systems. The solution will be available for commercial use from January 2019 and is compatible across Inmarsat's maritime portfolio of services, including Fleet Xpress, FleetBroadband and Fleet One. It also complements the resilience of Inmarsat's own satellite and ground network enabling consistent cybersecurity standards to be maintained. Inmarsat has also launched a training app for mobile devices, Fleet Secure Cyber Awareness. This enables seafarers to educate themselves on the tactics that cyber criminals might employ in attempting to infiltrate a company's IT infrastructure.

FCC Grants LeoSat U.S. Market Access

November 16, 2018 - LeoSat Enterprises has been awarded the authority by the U.S. Federal Communications Commission (FCC) to provide NGSO (non-geostationary satellite orbit) services in the United States. The FCC market access grant will allow LeoSat to address currently unmet demand for high-bandwidth, low-latency, high-security data transmissions from large commercial and government customers in the United States. Designed as a backbone in space for global business, LeoSat's data network will enable new opportunities for sectors such as enterprise-to-enterprise communications, telecommunications, oil & gas operations and maritime services, delivering premise-to-premise high-speed data (greater than 1 Gbps) with unmatched security to any location in the world. Moreover, whilst LeoSat's core focus is solving essential business communications challenges, the unique design of LeoSat's constellation means capacity will also be available to enable a new level of connectivity services for Internet and cellular backhaul for remote and underserved communities.

FCC Boosts Satellite Broadband Connectivity and Competition in the United States

November 15, 2018 - The Federal Communications Commission (FCC) approved the requests of four companies – Space Exploration Holdings, LLC (SpaceX), Kepler Communications, Inc. (Kepler), Telesat Canada (Telesat), and LeoSat MA, Inc. (LeoSat) – seeking to roll-out new and expanded services using proposed non-geostationary satellite orbit (NGSO) satellites. These proposed satellite systems are expected to enable fixed satellite service in the United States, expanding global connectivity and advancing the goals of increasing high-speed broadband availability and competition in the marketplace. In a Memorandum Opinion, Order and Authorization, the Commission granted SpaceX's application with certain conditions, authorizing SpaceX to construct, deploy, and operate a new very-low-Earth orbit constellation of more than 7,000 satellites using V-band frequencies. The Commission also granted SpaceX's request to add the 37.5-42.0 GHz, and 47.2-50.2 GHz frequency bands to its previously authorized NGSO constellation. The Commission's action provides SpaceX with additional flexibility to provide both diverse geographic coverage and the capacity to support a wide range of broadband and communications services for residential, commercial, institutional, governmental, and professional users in the United States and globally.

Intellian's Tri-band and Multi-orbit Antenna Endorsed by SES Networks

November 19, 2018 - Intellian, the world's leading provider of satellite antenna systems, announced that SES Networks has endorsed the world's first and only tri-band, multi-orbit, 2.4-meter antenna, the v240MT, for use on its Ku, Ka and C-band satellites. Intellian's 2.4m multi-band, Medium Earth Orbit (MEO) and Geostationary Earth Orbit (GEO) broadband antennas provide seamless access to virtually any satellite constellation within seconds. These frequency-agile and orbit-agnostic capabilities, enabled by Intellian's innovative antennas and its new Intelligent Mediator Solution, ensure that the equipment's

capabilities are future-proof for customers seeking the fastest and most reliable broadband connectivity. The new Intellian v240MT solution provides the unique capability of switching between different satellite frequency bands (C, Ku, and Ka) as needed without any user intervention required. This then ensures the best solution for the geographic location and flexibility in achieving the highest throughput. Intellian's solution, when combined with SES Networks' satellite-based services, provides truly global, tri-band, multi-orbit coverage that delivers connectivity scaling from 100 Mbps through to multiple Gbps of dedicated capacity to a single vessel.

VT iDirect Joins ESA SATis5 Consortium to Help Drive Integration of 5G and Satellite Networks

November 20, 2018 - VT iDirect joined SATis5, a consortium funded by the European Space Agency (ESA) to promote the cost-effective integration of satellite technology into 5G networks. Together with the consortium members, VT iDirect's solutions group, based in Killarney Ireland, will drive technology innovation aimed at opening market opportunities for 5G-based connectivity services. Additionally, VT iDirect will be leading the research and development of an end-to-end system to support multi-orbit geostationary equatorial orbit (GEO) and non-GEO satellite integration as part of the 5G architecture with focus on both enhanced mobile broadband (eMBB) and massive Machine Type Communications (mMTC) Internet of Things (mIoT) usage scenarios. The SATis5 consortium members, VT iDirect, SES and Fraunhofer FOKUS, recently partnered to showcase a live Satellite-5G test bed at the FOKUS FUSECO Forum 2018 event in Berlin, Germany on Nov. 15-16.

Boeing and SparkCognition to Launch Joint Venture SkyGrid

November 20, 2018 - Boeing and SparkCognition announced plans to launch SkyGrid, a new company that will enable the future of urban aerial mobility. Based in Austin, Texas, SkyGrid will develop a software platform to ensure the safe, secure integration of autonomous cargo and passenger air vehicles in the global airspace. Using blockchain technology, AI-enabled dynamic traffic routing, data analytics and cybersecurity features, SkyGrid's platform will go beyond unmanned aircraft systems (UAS) traffic management (UTM). The platform will enable SkyGrid customers to safely perform a broad range of missions and services using UAS, including package delivery, industrial inspections and emergency assistance.

Inmarsat Signs Agreements with Leading Air Navigation Services Providers for Iris Program

November 21, 2018 - Inmarsat has signed agreements with five major Air Navigation Services Providers (ANSPs) in support of the Iris program to modernize air traffic management (ATM) across Europe. DFS (Germany), ENAIRE (Spain), ENAV (Italy), EUROCONTROL MUAC (North-West Germany, Belgium, Luxembourg and the Netherlands) and NATS (UK), who together handle the majority of European air traffic, will join an Initial Operational Capability (IOC) pilot, marking a significant milestone for the early implementation phase of Iris. Separately, Inmarsat has also signed a contract with European Satellite Services Provider (ESSP), a company owned by European ANSPs and focused on safety of life services, in accordance with International Civil Aviation Organization (ICAO) standards. ESSP will work with Inmarsat to help define the service and certification framework of the future Iris Service Provider, a company that will be appointed under the program to provide the European datalink communication services for Iris. The Iris program is a partnership with the European Space Agency (ESA) and led by Inmarsat to enable secure, high bandwidth datalink communications over Europe. The objective is to deploy more digital controller-pilot communications to improve the speed and accuracy of air traffic management across Europe's congested airspace.

Thaicom Receives ASEAN Corporate Governance Awards for the 2nd Consecutive Time

November 22, 2018 - Thaicom Public Company Limited received the ASEAN Corporate Governance Awards for the Top 50 ASEAN publicly listed companies category for the second consecutive time. The ASEAN CG Awards reflects Thaicom's outstanding score in terms of corporate governance practices based on assessment using the ASEAN Corporate Governance Scorecard (ACGS). This ranking will help to elevate the level of corporate governance quality among Thai listed companies in ASEAN. The ASEAN Corporate Governance Awards is initiated by the ASEAN Capital Markets Forum (ACMF) with the support of the Asian Development Bank (ADB) to establish a common governance framework across the region and to raise the profile of ASEAN PLCs within the global investment community. The award also recognized Thaicom's achievements toward sustainable development by adhering to corporate governance (CG) principles and raising the bar for CG practices that promote transparency and consistently create shared value for all stakeholders.

New SSC Ground Station Established in Thailand

November 23, 2018 - The Swedish Space Corporation (SSC) has established a new multi-mission ground station at the GISTDA Space Krenovation Parkin Sri Racha, Thailand. This is an important addition to the already large SSC global network of ground stations, making access to information easier and quicker for SSC's customers. Through SSC's global ground station network, many different actors and stake-holders can get quick access to important information. A good example is information used to observe important phenomena on earth, such as changes in the environment or the climate.

GetSAT Selected by Hughes and NAVAIR as SatCom Component for U.S. Coast Guard Airborne

November 26, 2018 - GetSAT announced that its MilliSAT L/W has been selected as the beyond line of sight (BLOS) SatCom component for U.S. Coast Guard Airborne Communications by Hughes Defense Systems in support of Intelligence, Surveillance and Reconnaissance (ISR), Humanitarian Aid, Search and Rescue (SAR), and Disaster Relief (DR) Missions. In partnership with systems integrator Hughes Networks Systems LLC, a global leader in broadband satellite networks and services, GetSAT's technology was selected from multiple competitors to support mission critical communications link by U.S. Naval Air Systems (NAVAIR). GetSAT's MilliSAT L/W (lightweight) provides the U.S. Coast Guard with fully integrated airborne secure COTM applications. The company's micronized communications terminal is based on a patented fully-interlaced InterFLAT panel technology for transmitting and receiving signals on the same panel. Meeting the demanding requirements of full-time usage in harsh environments, this rugged satellite on the move (SOTM) terminal in a super-light compact installation offers significant savings in size, weight, and power usage (SWaP).

AWS and Lockheed Martin Team to Make Downlinking Satellite Data Easier and Less Expensive

November 27, 2018 - Amazon Web Services (AWS) and Lockheed Martin announced a strategic collaboration to integrate the new AWS Ground Station service with Lockheed Martin's new Verge antenna network. AWS and Lockheed Martin are bringing these two highly capable systems together to provide a solution that addresses customer needs for resilient satellite uplinks and downlinks. Through this integration, customers using AWS Ground Station gain the ability to download data from multiple satellites at the same time and to continue downloading data even when unplanned outages like weather event impact parts of the network. And, Lockheed Martin Verge customers benefit from being able to upload satellite commands and data through AWS Ground Station and to quickly download large amounts of data over the high-speed AWS Ground Station network. Both Lockheed Martin Verge and AWS Ground Station customers can now integrate satellite data with the rich portfolio of AWS services, including compute, storage, analytics, and machine learning.

Speedcast Launches Innovative Fleet Xpress Dual Antenna Solution

November 28, 2018 - Speedcast has successfully launched an innovative dual antenna solution for Fleet Xpress customers. The company also announced two unique promotions to celebrate this first-to-market launch of Fleet Xpress dual Ka-Band antenna systems onboard commercial maritime vessels, adventure cruise ships, and offshore supply vessels. With dual Ka-Band antennas installed onboard, Fleet Xpress users experience greater uptime on Ka-Band and have a higher certainty of maximizing throughput at sea. In single Ka-Band antenna installations, the vessel automatically switches between Ka-Band and the L-Band back-up service of FleetBroadband, so in times of blockage customers will utilize the L-Band system for operations. Because of the reduced risk of structural blockage with this new dual antenna configuration, the customer spends less time on FleetBroadband and enjoys a better experience over the high-throughput Ka-Band service. This dual antenna system from Speedcast is available to users in all maritime segments, including commercial maritime and smaller adventure cruise ships, and can be combined with new flexible airtime packages to meet the demands for short-term, high bandwidth options in the energy sector.

SAS Signs Distribution Agreement with GlobalSat Group

November 28, 2018 - Sky and Space Global Ltd (SAS) has reached a landmark and signed a distribution agreement with Globalsat Group LLC (GlobalSat) for the provision of narrow-band telecommunications services via nano-satellites. Under the terms of the agreement, SAS and GlobalSat have established non-exclusive commercial terms for GlobalSat to distribute, sell, market and promote SAS' ground-breaking narrow-band connectivity solutions and respective products to its customers, affiliates, resellers, subscribers and end users within Latin America. Once the constellation deployment has begun and as a result of this agreement, SAS expects to generate revenues of US\$5 million within the first 2 years based

on the conservative GlobalSat Group estimate, with a significant growth potential, thanks to the extensive amount of current and upcoming GlobalSat clients across the energy, government, defence, mining and agriculture sectors.

Optus Satellite Completes 100th Launch Support Mission

November 29, 2018 - Optus Satellite, the leading satellite operator in Australia and New Zealand, has announced the successful completion of its 100th launch support mission. The milestone achievement was completed for global satellite operator Telesat, with the launch of a new satellite that will deliver direct-to-home broadcast TV services throughout the Middle East and North Africa, which Telesat supported with its industry leading Transfer Orbit Services. The launch strengthens the relationship between Optus Satellite and Telesat. In March 2018, the companies announced a collaboration to conduct live, over-the-air trials on Telesat's low earth orbit satellite.

Seadrill Enhances Personal Internet Experience for its Crew with Speedcast Crew Wi-Fi Solution

November 29, 2018 - Speedcast announced that the company is adding its recently-launched Crew Wi-Fi solution onboard over a dozen offshore drilling rigs operated by Seadrill. Seadrill is a world leader in offshore drilling with one of the youngest, most modern fleets employing highly trained and proficient people. They operate in shallow to ultra-deep water, in both harsh and benign environments. Seadrill sees people as their most valuable asset, so the provision of Crew Wi-Fi is an essential service. Speedcast's Crew Wi-Fi provides crew a personal Internet experience that is fast and reliable. As the service is fully managed by Speedcast, Seadrill does not need to administer payment plans or worry about bandwidth management. Crew onboard select Seadrill vessels can now take control of how they contact family and friends, browse websites, engage with social media and stream content, all while paying directly with credit card or PayPal through a self-service portal. Speedcast has completed the Crew Wi-Fi installation onboard four of Seadrill's drilling rigs, and is scheduled to install on eight more before the year end.

BROADCASTING

Türksat Tests 8K Super High-Vision Channel

November 1, 2018 - Türksat continues to pave the way with new broadcasting technologies. Ultra HD 8K (Super High-Vision) test broadcast, which is the highest level of broadcasting technology, started to be given through the Türksat 4B communication satellite located at the 50 degrees East orbital location. Ultra HD 8K broadcast test was successfully carried out with the cooperation of Türksat, Kızıl Elektronik, Vestel and Socionext. During the process, the historical and natural beauties of Istanbul were taken with Ultra HD 8K, allowing for realistic high definition images to be obtained. Türksat, which is among the pioneers in the world when it comes to transitioning to Ultra HD 8K broadcasting technology, which very few organizations are able to realize and which contains advanced technology, is experiencing the joy of making domestic/national contributions to the sector.

TV Peru Expands Distribution of its HD Content Domestically and Internationally with Intelsat

November 14, 2018 - Intelsat S.A. announced that the National Institute of Radio and Television of Peru (TV Peru), a leading Peruvian TV broadcaster, has signed a new and expanded contract to enhance its Digital Terrestrial Television (DTT) offering in Peru and to strongly position the company to distribute its programming internationally. Under the multi-year agreement, TV Peru renewed C- and Ku-band services on Intelsat 14, the company's latest video neighborhood in Latin America, located at 315°E. TV Peru will rely on Intelsat 14 to distribute high-definition (HD) and standard-definition (SD) content to its television stations and affiliates in Peru as well as to provide contribution services for sports and news-gathering. In addition, TV Peru will utilize C-band satellite solutions on Intelsat 11 to launch a new, international HD channel in Peru. By choosing to expand to Intelsat's highly penetrated Intelsat 11 neighborhood located at 317°E, TV Peru joins a select group of top tier programmers.

One of Africa's Largest Public Broadcaster Selects Globecast and Spacecom's AMOS-7 for Permanent SNG Services

November 14, 2018 - Spacecom operator of the AMOS satellite fleet, and Globecast, the global solutions provider for media, announced a partnership to provide satellite capacity for permanent SNG (Satellite News Gathering) services for one of Africa's largest public broadcaster. Via Spacecom's AMOS-7 Africa KU-band beam, Globecast is providing a long-term solution for the broadcaster. Provision of the service began

in September 2018. According to Spacecom's Sr. VP Sales, Jacob Keret, "AMOS-7's unmatched power together with excellent elevation angle provides an optimal solution for broadcasters seeking efficient and reliable satellite transmission service. The satellite's capabilities allow this broadcaster to uplink HD-on-the-move all within one beam that covers all of Southern Africa. Our new contract as the satellite operator for permanent SNG services is another business development step as we prepare for the upcoming 2019 launch and beginning of services for our AMOS-17 satellite."

New DTH Satellite TV Bouquet for the Former Yugoslavian Countries from Telekom Srbija and SES

November 15, 2018 - Viewers in Serbia, Bosnia and Herzegovina, and Montenegro will soon have access to new content delivered by Telekom Srbija from SES' key orbital location at 23.5 degrees East. SES announced that the main telecommunication operator in Serbia has signed a multi-year and multi-transponder contract for service on its Astra satellite to launch Telekom Srbija's new Direct-to-Home (DTH) platform which will start broadcasting in all three countries simultaneously mid-December. The new DTH platform will enable Telekom Srbija to broadcast more than 150 channels, including up to 30 in High Definition (HD). All Serbian public television channels will also be available on the platform, bringing a complete selection of content to viewers in the market. Additional channels will be offered as Free-to-Air for viewers.

Speedcast Aids Digital TV Switchover in Malaysia

November 23, 2018 - Speedcast announced it will play a key role in Malaysia's effort to switch from analogue TV to digital TV through a Direct To Home (DTH) solution. Speedcast has partnered on the three-year project with MYTV Broadcasting Sdn Bhd (MYTV), the common integrated infrastructure provider providing free digital terrestrial television in Malaysia. MYTV will be responsible for operating the infrastructure and network facilities for Digital Terrestrial TV (DTT) services throughout the country and will work with Speedcast to extend its coverage via DTH satellite services. Speedcast expects this contract to contribute to its Enterprise & Emerging Markets Division revenue from mid-November 2018. The shift from analogue to digital in Malaysia is in line with a larger digital shift in the ASEAN region to bring the latest digital content to people around the region. The Malaysian Ministry of Communications and Multimedia commissioned the project, which will be supervised by the Malaysian Communications and Multimedia Commission.

High Court Grants Orders to Block Access to Illegal Applications on TV Boxes

November 23, 2018 - The High Court ordered Singapore's internet service providers to block access to popular illegal applications that are frequently sold pre-loaded on android TV boxes. Such TV boxes are also known as illicit streaming devices (ISDs). These apps, which flagrantly infringe copyright by acting as gateways to websites streaming pirated content, are preloaded on TV boxes which are overtly sold in retail outlets such as Sim Lim Square, IT exhibitions and on popular e-markets. The application and illicit streaming device (ISD) ecosystem is impacting all businesses involved in the production and distribution of legitimate content. Configuring TV boxes with applications to stream audio-visual content from illegal streaming servers allows consumers to access unauthorized premium TV channels, live sports channels and movies for the one-off price of the TV box and (often) a yearly subscription to access the content – with the revenue going into the pockets of criminal syndicates and individuals all benefiting from the spoils of such a crime.

LAUNCH / SPACE

Spacebus NEO Platform on Track for Launch in 2019

November 1, 2018 - Thales Alenia Space is to show the first designed and built Spacebus Neo Xenon Propulsion System (XPS) module that will be integrated into Eutelsat's KONNECT satellite based on the Spacebus NEO platform. The Spacebus NEO product line is supported jointly by the European Space Agency's (ESA) ARTES programme of Advanced Research in Telecommunication Systems, and France's space agency (CNES). This XPS module was presented today in the Space Propulsion Integration and Manufacturing Centre at Thales Belfast, opened in October 2016 after significant investment. The XPS module will be used to raise Eutelsat's KONNECT satellite from the orbit provided by the launch vehicle to the geostationary orbit and then to maintain its station in orbit for at least 15 years. Following a successful Critical Design Review early 2018, the Spacebus Neo XPS module is now finalising its manufacturing process.

China Launches High-orbit BeiDou-3 Satellite

November 2, 2018 - China's home-grown global satellite navigation system came a step closer to completion with the launch of another BeiDou-3 satellite from the Xichang Satellite Launch Center, in the southwestern Sichuan Province. Launched on a Long March-3B carrier rocket, it is the 41st of the BeiDou navigation system, and will work with 16 other Beidou-3 satellites already in orbit. It is also the first BeiDou-3 satellite in high orbit, about 36,000 km above the Earth. In a geostationary orbit, following the Earth's rotation, it will view the same point on Earth continuously. A basic system with BeiDou-3 satellites orbiting will be in place by the year-end to serve countries in the China-proposed Belt and Road Initiative.

New Agreement to Develop NZ's Capability in Unmanned Aircraft & Space Data Technology

November 2, 2018 - The Ministry of Business, Innovation and Employment (MBIE) has signed a new agreement with Europe's largest aeronautics and space company, Airbus, committing to work together to develop capability in New Zealand's emerging Unmanned Aircraft (UA) and space data technology sectors. The Letter of Intent, enabled through MBIE's Innovative Partnerships program, sets out a commitment to seek opportunities for Airbus to test and trial its UA technologies in New Zealand, and to work together to support the development and adoption of new and innovative space data technologies and applications. Airbus has also committed to collaborate with MBIE to deliver a series of innovation challenges in New Zealand that leverage UA and space data technologies. The challenges will seek to generate solutions for real public or private problems, be a catalyst for stimulating innovation and increase New Zealand's R&D capabilities in these areas.

CGWIC and China Siwei Signed the Contract of the Superview-1 Satellite Data Overseas Marketing

November 6, 2018 - China Great Wall Industry Corporation (CGWIC) and China Siwei Surveying and Mapping Technology Co. Ltd. (China Siwei) signed the Contract of Superview-1 Satellite Data Overseas Marketing. Since the launch of Superview-1 01 & 02 in Dec. 2016, CGWIC and China Siwei have been jointly working on the international market development of the Superview-1 satellites. Both sides have taken full use of their respective advantages and have achieved great progress. The Superview satellite data allows extensive application in the urban planning, agricultural crop estimation, land resources exploration, and etc. This contract was the second one between both sides about the Superview satellite data overseas marketing. The Superview satellite constellation has already accomplished four satellites in orbit as of today, with the resolution of 0.5m PAN/ 2m MS. It is the first Chinese commercial satellite constellation with high agility and multi-mode imaging capabilities. It could acquire the multi-point and multi-band mosaic data, as well as conduct the stereo imaging. The Superview satellite constellation has realized one-day revisit of any spot in the world. It marks the initiation of the completely autonomous commercial operation of the Chinese remote sensing satellites.

Glonass-M Navigation Satellite Launched into Orbit

November 6, 2018 - On November 3, 2018 a Glonass-M navigation satellite, designed and built by ISS-Reshetnev Company, was successfully launched into orbit. The satellite flew to space from the Plesetsk cosmodrome aboard a Soyuz-2.1b/Fregat launch vehicle. By now the satellite has already performed Sun and Earth acquisition. A joint team of specialists from the Titov Main Test and Space Systems Control Center (based in Krasnoznamensk) and ISS-Reshetnev Company are currently checking the performance of Glonass-M's service subsystems. Upon completion of all check-outs the new Glonass-M spacecraft will augment the orbital constellation of the GLONASS global navigation satellite system. It is intended to replace a retired satellite that has already outlived its designed lifespan.

Arianespace Orbits Metop-C for EUMETSAT's Metop Meteorological Satellite Program

November 6, 2018 - Arianespace has successfully launched the Metop-C satellite for EUMETSAT, the European Organisation for the Exploitation of Meteorological Satellites. Arianespace's eighth launch of the year, and the second using a Soyuz rocket, took place on November 6 from the Guiana Space Center, Europe's Spaceport in French Guiana. With the launch of this third and final satellite of the current-generation EUMETSAT Polar System (EPS), Arianespace once again supports both EUMETSAT and Europe in improving weather forecasts and monitoring the global climate for a better life on Earth. EUMETSAT is tasked with supplying meteorological and climate data to European member-states, as well as to international partners and users, while also contributing to the long-term study of climate change.

CGWIC Launches Brand-New Full -Electric Propulsion Small Communication Satellite Platform

November 6, 2018 - China Great Wall Industry Corporation (CGWIC) and APT Mobile SatCom (HK) Limited

(APSATCOM) and APT Satellite Company Limited (APT) formally held the Signing Ceremony of “Letter of Intent in APSTAR SMALL GEO Communication Satellites System”. The three parties shall develop The APSTAR SMALL GEO Communication Satellites System based on Dong Fang Hong-4 Full-electric SMALL GEO Platform (“DFH-4F SMALL GEO Platform”) with all electric propulsion, a general communication satellite platform designed by China Academy of Space Technology (CAST) suitable for small-size payload with mature technology and high-qualified research & development process, cost-efficient launch services and high-efficiency ground delivery schedule according to analysis by CGWIC of current domestic and international space market trend. The satellite designed by DFH-4F SMALL GEO Platform can be compatible with medium capacity launch vehicles of Long March Family with high-efficiency and high-reliability, and its ground control system is highly commercialized, combined with high-quality satellite support services and competitive launch and in-orbit insurance arrangements. As the supplier and prime contractor, CGWIC is devoted to provide quality in-orbit delivery comprehensive solution to domestic and international customers based on DFH-4F SMALL GEO Platform.

Spaceflight Arranges Launch of 12 Satellites aboard India’s PSLV C43

November 8, 2018 - Spaceflight, the leading satellite rideshare and mission management provider, announced it will launch 12 spacecraft in November from India’s Polar Satellite Launch Vehicle (PSLV). Payloads aboard the mission include Fleet Space Technologies’ Centauri I, Harris Corporation’s HSAT, Spire’s LEMUR satellites, and BlackSky’s Global-1 microsatellite. In addition to securing capacity aboard the launch vehicle, Spaceflight executed the integration of most of the payloads at its Seattle integration facility. The payloads are currently en route to PSLV’s launch facility at India’s Satish Dhawan Space Center for a launch in late November.

Rocket Lab Reaches Orbit Again, Deploys More Satellites

November 11, 2018 - Rocket Lab has continued the success of its 2018 orbital launch program with the launch of seven payloads to orbit. The mission, named ‘It’s Business Time,’ marks Rocket Lab’s second successful orbital launch and deployment of customer satellites. Rocket Lab’s Electron launch vehicle lifted-off from Launch Complex 1 on New Zealand’s Māhia Peninsula on 11 November. After first reaching orbit on Electron’s second stage, the Curie kick stage successfully separated and circularized its orbit before deploying six satellites for customers Spire Global, Tyvak Nano-Satellite Systems, Fleet Space Technologies and the Irvine CubeSat Stem Program. Curie also carried NABEO, a drag sail technology demonstrator, designed and built by High Performance Space Structure Systems GmbH, to passively de-orbit inactive small satellites and reduce space junk. Rocket Lab is poised for high-frequency launches in 2019 thanks to production facilities that enable rapid mass Electron production, as well as a private launch complex licensed to launch up to 120 times per year.

China Unveils Hongyan Low-orbit Internet Satellite System

November 11, 2018 - A global low-orbit Internet satellite system was unveiled on November 8 at the ongoing 12th China International Aviation and Aerospace Exhibition (Airshow China) in Zhuhai, south China’s Guangdong Province. Named the Hongyan Global Satellite Constellation Communication System, it was launched by China Aerospace Science and Technology Corporation, and is planned to complete in 2020. The system is to consist of 300 low-orbit small satellites and a global data processing center. It is capable of providing users with all-weathered real-time two-way telecommunication at full time and under complex terrain conditions and with global real-time data and integrated information services. The Hongyan system is also capable of global navigation enhancement, providing more accurate navigation and positioning services for unmanned vehicles and drones. The system’s first satellite is scheduled to be launched by the end of this year, and it is planned to realize global coverage by 2025.

DLR Develops a Reusable Rocket Engine for Launching Small Satellites

November 14, 2018 - As part of the EU project SMILE (Small Innovative Launcher for Europe), researchers from the Institute of Structures and Design at the German Aerospace Center (Deutsches Zentrum für Luft- und Raumfahrt; DLR) have developed a reusable rocket engine especially for launching such satellites, and have performed an initial series of successful trials on a test rig. The rocket engine, developed by DLR scientists specifically for this application, consists of two central components – the metal injector head and the ceramic combustion chamber. Belgian project partner 3D Systems manufactured the prototype injector out of a nickel-chromium alloy using metal 3D printing. 3D printing is an additive process. Digital design data is used to build up or rather print the desired structure in layers by depositing material. "Thanks to this relatively new manufacturing technology, we need significantly fewer parts and process steps, which

speeds up the manufacturing process for the injector and reduces production costs. At the same time, we have been able to significantly reduce the mass of the components, which is always a very important factor in aerospace applications," says Markus Kuhn, responsible for the project at the DLR Institute of Structures and Design in Stuttgart.

GHGSat Selects Arianespace to Launch GHGSat-C1 on Vega

November 15, 2018 - Arianespace has been selected by GHGSat Inc. to launch the GHGSat-C1 satellite on the Vega launch vehicle as part of the Small Spacecraft Mission Service flight in 2019. Montreal, Canada-based GHGSat is building the GHGSat-C1 spacecraft to measure greenhouse gases emissions from industrial facilities around the world. GHGSat-C1 is a follow-on to the GHGSat-D spacecraft that has been operational in orbit since June 2016. Toronto-based Space Flight Laboratory (SFL) is providing the satellite platform and managing the launch activities with Arianespace for GHGSat-C1. The Vega Proof of Concept flight (POC flight) is the first mission of the Small Spacecraft Mission Service (SSMS) a program initiated by the European Space Agency in 2016, with the contribution of the European Commission. For all the European partners involved, its purpose is to perfectly address the burgeoning microsatellite market for both institutional and commercial needs with a new rideshare concept on the Vega light launcher.

Telespazio and Thales Alenia Space Announce an Investment in NorthStar Earth and Space

November 15, 2018 - The Space Alliance formed by Telespazio and Thales Alenia Space announced it has officially taken a stake in NorthStar Earth and Space, a Montreal based information services company developing the world's most advanced environmental and near-space monitoring system. Through its investment, as part of an overall CAD\$52 million first round of public and private financing, the Space Alliance is proving that it plays a leading role in the New Space sector, providing solutions to NorthStar for the design, development and realization of a unique 40 satellite constellation based on double equipped satellites to provide Space Situational Awareness and Geo Information services. Space Situational Awareness refers to the ability to view, understand and map the physical location of natural and man-made objects in orbit around the Earth (currently there are more than 600 thousand objects in low Earth orbit with hundreds of billions of dollars of space assets at risk from collisions).

Es'hail-2 Successfully Launched on Board Falcon 9 Rocket

November 16, 2018 - Es'hailSat announced the successful launch of Es'hail-2 satellite on board a Falcon 9 rocket from Launch Complex 39A at Kennedy Space Center in Florida, USA. Lift-off of the Falcon 9 rocket carrying the Es'hail-2 satellite took place at 23:46 Doha time. Es'hail-2 satellite separated from the second stage of the Falcon 9 rocket at 00:18 Doha time on 16 November and the solar panels were fully deployed about 2 hours after liftoff. The spacecraft is currently in its transfer orbit, and Es'hailSat expects to bring the satellite in to commercial service at 26°E orbital position by January 2019, upon completion of in Orbit Tests. Built by Mitsubishi Electric Company (MELCO), based on their DS 2000 satellite bus, Es'hail-2 has a proven, modular platform with high power capability and flexibility for a broad range of applications. In addition to offering Ku-band capacity to support the growing 25.5°E / 26.0°E broadcast neighborhood, Es'hail-2 also features multi-transponder Ka-band capacity with sophisticated anti-jamming capabilities providing business and government sectors with secure communications across the MENA region. The spacecraft has a design life in excess of 16 years.

Mitsubishi Electric-built Es'hail-2 Communications Satellite Launches Successfully

November 16, 2018 - Mitsubishi Electric Corporation announced that the Es'hail-2 communications satellite built by the company launched successfully on board a Falcon 9 rocket from Launch Complex 39A at Kennedy Space Center in Florida, USA. Following completion of in-orbit tests, the satellite is scheduled to be delivered to Doha-based Qatar Satellite Company (Es'hailSat) in January 2019. Mitsubishi Electric is the first Japanese satellite manufacturer to enter the Arab commercial communications satellite market. With a more than 16-year design life, Es'hail-2 satellite will offer direct broadcasting services throughout the Middle East and North Africa of television stations. From the orbital position at 26 degrees east longitude, its Ku-band and Ka-band capabilities will also provide government communication services. Moreover, Es'hail-2 will provide the world's first geostationary amateur radio service.

Eutelsat Procures Replacement Satellites for its Flagship HOTBIRD Neighbourhood at 13° East

November 19, 2018 - Eutelsat Communications has ordered two new satellites from Airbus Defence and Space to replace the three existing HOTBIRD satellites at its 13° East flagship neighbourhood. These all-electric high-power satellites are set to enter into service in 2022, serving Europe, the Middle East and

North Africa. The new satellites will reinforce and enhance the high quality of broadcasting services provided to Eutelsat customers on HOTBIRD, providing improved performances over Western Europe and Poland. Moreover, the satellites will offer advanced features in terms of uplink signal protection and resilience, as well as exceptional in-orbit redundancy. With a launch mass of 4.5 tonnes and an electric power of 22 kW, the all-electric propulsion satellites will be based on Airbus Defence and Space's innovative Eurostar Neo platform which will be produced, along with their high-performance payloads, in their UK facilities in Stevenage and Portsmouth as well as in their French facility in Toulouse.

Goonhilly Partners with Airbus, Other Industry Leaders and Academics in Proposed SmartSat CRC to Drive Australia's Space Sector

November 20, 2018 - Satellite communications innovator and space gateway Goonhilly Earth Station has joined the consortium backing the SmartSat CRC (co-operative research centre), a proposed space research initiative which plans to drive the Australian space industry through satellite technologies and analytics. Led by the University of South Australia (UniSA), Airbus Defence and Space and Australian defence sector engineering specialist Nova Systems, in partnership with the South Australian Space Industry Centre, the proposed plan for the establishment of the SmartSat CRC was developed starting early in 2018 and has been submitted to the Australian government for ratification. The first stage of the application process with the Federal Government has been successfully completed and the consortium is now preparing the final stage application, and working on next steps outlining the organisation's parameters and discussing funding

Arianespace Orbits the MOHAMMED VI - B Satellite on 13th Successful Vega Launch in a Row

November 20, 2018 - Arianespace has successfully launched the MOHAMMED VI - B Earth observation satellite, developed for the Kingdom of Morocco by a consortium comprising Thales Alenia Space as system prime contractor and Airbus as co-prime. Arianespace's ninth launch of the year, and the second using Vega in 2018, took place on Tuesday, November 20 from the Guiana Space Center (CSG), Europe's Spaceport in French Guiana (South America). This launch marks the 13th successful mission in a row for Vega since it entered service in 2012, as Arianespace continues to prove that its light launcher is a perfect match for the requirements of both government and commercial customers. The MOHAMMED VI - B satellite is the second spacecraft launched by Arianespace for the Kingdom of Morocco, within the scope of the country's Earth observation program, MOHAMMED VI - A & B. It joins the MOHAMMED VI - A satellite which was orbited by Arianespace on November 7, 2017, also using a Vega launcher.

XpressSAR Selects IAI's TecSAR Technology for its High-resolution X-band Satellite Constellation

November 20, 2018 - Israel Aerospace Industries (IAI) and XpressSAR have signed a Memorandum of Understanding (MOU) to purchase from IAI a constellation of up to four TecSAR synthetic aperture radar (SAR) satellites along with associated support services for launch, in-orbit testing, commissioning and establishing ground operations to control the constellation. XpressSAR, an American owned and operated company will purchase and operate the satellites in inclined orbit. IAI is responsible for the manufacturing of the satellites and other services needed to deliver a turnkey operational constellation in space. The world of SAR is at the cutting edge of space-based intelligence capabilities. The TecSAR satellite developed and designed by IAI is ranked among the world's most advanced space systems and is uniquely designed to provide high-resolution intelligence. It carries a SAR payload, designed to provide images during day, night and all weather conditions, including under cloud cover. The TecSAR satellites are significantly smaller, lighter, and more agile than other satellites in their category, providing outstanding maneuverability and image resolution quality and quantity.

RUAG Space Signs Memorandum of Agreement with Australian Rocket Company Gilmour Space

November 22, 2018 - Australia's leading rocket company, Gilmour Space Technologies, has signed a long-term collaboration and supply agreement with global launch industry supplier, RUAG Space. The agreement, the first of its kind in Australia, explores the use of RUAG Space's new range of FlexLine carbon composite products in Gilmour Space's proprietary hybrid rockets. The Queensland-based company is targeting to launch small satellites weighing up to 100 kg into low earth orbits from 2020, and up to 400 kg from 2021.

DARPA Selects Telesat's LEO System to Support DARPA's Blackjack Program

November 27, 2018 - DARPA (Defense Advanced Research Projects Agency) has awarded a contract to Telesat under which Telesat will undertake investigations that could lead to the Department of Defense

(DoD) making greater use of commercial low earth orbit satellite constellations, such as Telesat's LEO system, for DoD's future space-based communications. The investigations will include evaluating the advantages of DoD using the same spacecraft buses as those Telesat will use in its LEO constellation and having these future DoD spacecraft link to Telesat's LEO constellation via laser-based communications. The result of these investigations could lead to DoD using Telesat's LEO system for its global broadband connectivity needs. The award to Telesat was made by DARPA's Tactical Technology Office (TTO) under its Blackjack program. Blackjack is an architecture demonstration of a proliferated small satellite constellation in Low Earth Orbit to provide global persistence, low latency communications, and rapid technology refresh. This will be accomplished by leveraging commercial space technologies including commoditized spacecraft buses, ground infrastructure, and user segments at unprecedented costs.

PSLV-C43 Successfully Launches HysIS and 30 Customer Satellites

November 29, 2018 - The Indian Space Research Organisation's (ISRO) Polar Satellite Launch Vehicle (PSLV-C43) on November 29 successfully launched 31 satellites from Satish Dhawan Space Centre (SDSC) in Sriharikota. The PSLV-C43 lifted off at 9:57:30 (IST) from the First Launch Pad and injected India's Hyper-Spectral Imaging Satellite (HysIS) into the 645 km sun-synchronous polar orbit, 17 minutes and 19 seconds after the lift-off. Later, 30 foreign satellites were injected into their intended orbit after restarting the vehicles fourth stage engines twice. HysIS is an earth observation satellite built around ISRO's Mini Satellite-2 (IMS-2) bus weighing about 380kg. The mission life of the satellite is five years. The primary goal of HysIS is to study the earth's surface in both the visible, near infrared and shortwave infrared regions of the electromagnetic spectrum. Data from the satellite will be used for a wide range of applications including agriculture, forestry, soil/geological environments, coastal zones and inland waters, etc. HysIS had the company of one micro and 29 nano-satellites from eight countries, including Australia (1), Canada (1), Columbia (1), Finland (1), Malaysia (1), Netherlands (1), Spain (1) and USA (23). Satellites from Australia, Columbia, Malaysia and Spain were flown aboard PSLV for the first time. These foreign satellites launched are part of commercial arrangements between Antrix Corporation Limited and customers.

Lockheed Martin Selected for NASA's Commercial Lunar Lander Payload Services Contract

November 29, 2018 - Lockheed Martin will apply its expertise in interplanetary spacecraft to a new program designed to deliver commercial payloads to the surface of the Moon. NASA announced they have selected Lockheed Martin's McCandless Lunar Lander to provide payload delivery services as part of the agency's Commercial Lunar Payload Services (CLPS) contract. Lockheed Martin's lander design builds on four decades of experience engineering deep space missions, including Mars landers. The McCandless Lunar Lander is based on the proven design of the InSight lander - which just touched down on the Martian surface on Monday, Nov. 26 - and the Phoenix lander - which successfully arrived at Mars in May 2008.

EXECUTIVE MOVES

ITU Member States Re-elect Houlin Zhao as ITU Secretary-General

November 1, 2018 - Member States of the International Telecommunication Union (ITU) have re-elected Houlin Zhao of China as ITU Secretary-General during the Union's 20th Plenipotentiary Conference (PP-18) in Dubai, United Arab Emirates. The election took place in Dubai, United Arab Emirates, during the Plenary session of the PP-18 conference this morning. Zhao won the position with 176 votes, from 178 ballot papers deposited. He contested the position unopposed. Zhao, an information and communication technology (ICT) engineer who has served in a variety of senior management positions at ITU, will begin his second, and last, four-year term on 1 January 2019.

AVIA Announces New Board of Directors

November 5, 2018 - The Asia Video Industry Association (AVIA) announced the election of new Directors to its Board. Following its AGM on 1 November, first-time Directors elected were Greg Armshaw (Brightcove), Ernest Cu (Globe), Birathon Kasemsri Na Ayudhaya (True Corporation), Dr Roger Tong (AsiaSat) and Tony Zameczkowski (Netflix). Re-elected were Joe Welch (21st Century Fox - and current AVIA Chairman), Rohit D'Silva (FOX Networks Group Asia) and Alexandre Muller (TV5MONDE). They join existing Directors Desmond Chan (TVB), Belinda Lui (WarnerMedia), Amit Malhotra (The Walt Disney Company (Southeast Asia)) and Ricky Ow (Turner International) to form the 2018-2019 AVIA Board of Directors.

Exostar Names Stuart Itkin Vice President of Product Management

November 14, 2018 - Exostar, the leader in trusted, secure business collaboration in aerospace and defense (A&D), life sciences, and healthcare, announced that Stuart Itkin has joined the company as Vice President of Product Management. He will oversee all of Exostar's strategic and tactical product management and product marketing activities. Earlier in his career, Itkin served as Managing Director/Chief Marketing Officer (CMO) at the Corporate Executive Board (now Gartner), where he helped revamp the company's go-to-market model to align with evolving customer needs. As former Kronos CMO, Itkin led its transformation from products to solutions, helping drive over \$200M of revenue growth and playing a key role in its acquisition by private equity. Prior to Kronos, Itkin provided product leadership for several highly successful, high-growth supply chain software and technology companies, including Zebra Technologies, Symbol Technologies, and PSC, establishing those companies as leaders in their respective markets.

KVH Announces Two Key Leadership Positions

November 15, 2018 - KVH Industries announced that Brent Bruun has expanded his responsibilities as chief operating officer, and Mark Woodhead has been named executive vice president of mobile connectivity. The promotions leverage the business and maritime industry experience of the two leaders. In his role as chief operating officer, Bruun will now spearhead corporate business development; oversee all operational and financial aspects of KVH's mobile connectivity and inertial navigation businesses; lead financial planning and analysis; foster investor relations; and work toward organizational excellence across the global company. Bruun joined KVH in early 2008 and served as executive vice president of the mobile broadband group, the company's largest business unit. Prior to joining KVH, Bruun was senior vice president with satellite operator SES Americom, and gained his strong corporate financial background from positions held with GE Capital and KPMG earlier in his career. In Woodhead's new role as executive vice president of mobile connectivity, he takes on leadership for EMEA, Asia, and Americas commercial sales; global leisure sales; KVH Videotel and KVH Media Group; global sales operations; and product line management. Woodhead previously served as KVH's senior vice president, EMEA, overseeing mobile connectivity sales activities in the region and also overseeing KVH Videotel on a global basis.

Telekom Malaysia Appoints Imri Mokhtar as Acting Group CEO

November 23, 2018 - Telekom Malaysia (TM) has appointed chief operation officer Imri Mokhtar to the role of acting group chief executive officer, following the resignation of Bazlan Osman. Bazlan Osman took the leading role after the resignation of the previous CEO, Sri Mohammed Shazalli Ramly, in June this year. He has also given notice of his resignation as executive director which will take effect on February 28, 2019. Imri has over 20 years of experience in business strategy and operations from the communications and media industry. He first started his career with TM in 1996 and re-joined the Malaysian telco in 2005. He had served in various positions in TM including as VP, program and performance management office and EVP, consumer.

Airbus Defence and Space Appoints Barbara Bergmeier as Head of Operations

November 27, 2018 - Airbus Defence and Space has appointed Barbara Bergmeier as Head of Operations and Member of the Executive Committee, effective 1 December 2018. She succeeds André-Hubert Roussel who will become Chief Executive Officer (CEO) of ArianeGroup, a 50-50 joint venture between Airbus and Safran, effective 1 January 2019. Barbara Bergmeier joins Airbus Defence and Space from Vilsbiburg, Germany-based Dräxlmaier Group, where she has been Chief Operating Officer and an Executive Board Member since 2014. In that capacity, she has been in charge of 50 production sites in 20 countries and has been instrumental in expanding the company's industrial footprint in Asia and in the Americas.

André-Hubert Roussel to Succeed Alain Charneau as ArianeGroup CEO

November 26, 2018 - The Board of Directors of ArianeGroup has endorsed the proposal made by Airbus and Safran and has approved on November 22, 2019, the appointment of Andre-Hubert Roussel, 53, to succeed Alain Charneau, 62, as Chief Executive Officer of the company, effective January 1, 2019. Andre-Hubert Roussel is currently Head of Operations at Airbus Defence and Space and has been a member of ArianeGroup Board since July 2018. Alain Charneau will retire after a transition phase from January 1 to March 31, 2019, during which he will serve as Special Advisor to the new CEO of ArianeGroup.

Aireon Names Peter Cabooter as Vice President of Customer Affairs

November 29, 2018 - Aireon announced that Peter Cabooter has joined the executive team, fulfilling a

newly created position, Vice President of Customer Affairs. In this role, Cabooter will lead Aireon's program to support existing customers around the world and developing new relationships with Air Navigation Service Providers (ANSPs) currently not subscribed to the Aireon service. Aireon is deploying the world's first and only truly global space-based Automatic Dependent Surveillance-Broadcast (ADS-B) aircraft surveillance and tracking service, providing real-time aircraft visibility anywhere on the planet. Cabooter comes to Aireon with 17 years of sales and air traffic management experience including executive positions at NAVBLUE (previously Airbus ProSky) and Barco Orthogon (now a part of Harris Corporation). As part of his role, Cabooter will lead global sales initiatives for Aireon.

REPORTS

\$284 Billion Market for 3,300 Satellites to be Built & Launched over Next Decade

November 12, 2018 - According to the 21st edition of its report *Satellites to be Built & Launched over the Next 10 Years*, Euroconsult anticipates that 330 satellites with a mass over 50 kg will be launched on average each year by 2027 for government agencies and commercial organizations worldwide. This is a threefold increase over the past decade as the satellite market experiences a paradigm shift with the rise of small satellites and large constellations. The 3,300 satellites over 50 kg to be launched over 2018-2027 should represent a market of \$284 billion for the space industry in terms of building and launching, up 25% over that of the past decade. At the same time, a price decrease is visible in the satellite industry, driven by the commercial constellations of smallsats introducing new production and operation concepts including economies of scale, softwarization, and vertical integration up to data analytics.

Satellite Ground Segment to Generate \$162 Billion in Next Decade

November 14, 2018 - NSR's *Commercial Satellite Ground Segment, 3rd Edition* report, released today, forecasts annual global revenues for the Commercial Satellite Ground Segment will grow to \$15.71 billion by 2027. Set top boxes (STBs) and antennas capture the largest share of revenues, leveraging the volumes of Satellite TV. The Ground Segment is a key enabler in the return to growth for the satellite industry. As the focus shifts from "satellites" to "networks", VSAT platforms are more strategic than ever. Antennas have a critical role to play, unlocking verticals like Mobility or enabling new architectures like MEO and LEO constellations. With new bands growing in popularity, and throughputs skyrocketing, RF Chains need to evolve rapidly. Smallsat EO constellations are also building up demand for the EO Ground Segment.

SSPI Releases Identifying and Engaging High-Potential Employees Report

November 14, 2018 - Space & Satellite Professionals International (SSPI) released *Identifying and Engaging High-Potential Employees*, the newest report in the Making Leaders series. The brief, readable report shares insights from experts in talent management on how to spot high-potential employees, what to do with them, and how to know you are doing it right. Companies need a few influential, high-performing employees who lead others to success. In the talent business, they are known as "high potentials," and companies in space and satellite can't get enough of them, in small and midsize companies as well as large ones. The report offers specific guidance for the small to midsize company on using limited resources to get the biggest impact.

Evolving Chinese Space Ecosystem to Foster Innovative Environment

November 20, 2018 - According to Euroconsult's latest report, *China Space Industry 2018*, the China space value chain had an estimated size of more than \$16 billion in 2017, with the downstream market accounting for just over 85%. Satellite Navigation, one of the key satellite applications in China, was the main revenue generator in 2017, ahead of Satellite Communications and Earth Observation. This premier edition of the report provides a deep-dive analysis of the current Chinese space ecosystem and future expected evolutions, from upstream to downstream, and covers each of the key satellite applications in China: Satellite Manufacturing, Launch, Satellite Communications, Earth Observation, Satellite Navigation and Space Exploration. For each of the markets, key current and potential future players expected to have an impact on the ecosystem are profiled, including details on their strategies, funding, technological competencies and potential future plans.

NSR Releases Satellite Industry Financial Analysis, 8th Edition

November 26, 2018 - Built on 10+ years of in-house financial research, NSR's *Satellite Industry Financial Analysis, 8th Edition (SIFA8)* is the leading industry resource for analyzing financial performance across

the dynamic satcom market. NSR's SIFA8 includes several new metrics and indicators for the first time, with an addition of integrated operators and service providers. NSR also introduces the Break-even Fleet Pricing Metric, indicating the floor/minimum capacity spot pricing possible for a given FSS or HTS satellite/fleet with an operator, where the profit margin becomes zero. With a deep and firsthand understanding of the components influencing satellite operator and service provider finances, NSR's SIFA8 provides the most in-depth financial analysis in the industry.

UPCOMING EVENTS

CYBERSAT18, 14-16 November, Arlington, VA, USA, www.cybersatsummit.com

India Satcom 2018, 20-21 November, New Delhi, India, <https://www.broadbandindiaforum.com/india-satcom-2018.html>

The HTS 2018 Roundtable, 4 December, London, U.K, <https://www.uk-emp.co.uk/current-events/hts-roundtable-2018/>

Smallsat Development & Commercialisation Asia Summit 2018, 11-12 December, Singapore <https://smallsatdevelopment.iqpc.sg/>

SIA's 14th Annual DoD Commercial SATCOM Workshop, 11-13 December, Arlington, VA, USA <http://www.dodsatcom.com/>

CES - Consumer Electronics Show, 8-11 January, Las Vegas, NV, USA, <http://www.ces.tech/>

PTC'19, 20-23 January, Honolulu, Hawaii, USA, <https://www.ptc.org/ptc19/>

Convergence India 2019, 29-31 January, New Delhi, India, <http://www.convergenceindia.org/>

CSTB 2019, 29-31 January, Moscow, Russia, <https://en.cstb.ru/>

SmallSat Symposium, 4 - 7 February, Silicon Valley, USA, <http://2019.smallsatshow.com/>

CABSAT 2019, 12 - 14 March, Dubai, UAE, <https://www.cabsat.com/>

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About APSCC

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