

APSCC Monthly e-Newsletter

APRIL 2020

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

News in this issue has been collected from March 1 to March 31.

INSIDE APSCC

The APSCC Summit@ConnecTech Asia 29 September - 1 October, Singapore EXPO

The Asia-Pacific Satellite Communications Council (APSCC), in conjunction with Informa Markets will present three days of sessions at ConnecTechAsia 2020, Asia's biggest telecom industry event. The event will take place on the Satcomm exhibition floor, and will be open to all 35,000+ exhibition attendees. The program will be focused on customer verticals, and will feature case studies, executive interviews, presentations and a series of themed interactive sessions – all intended to showcase APSCC members, and provide a value-added experience for participants.

Please contact info@apsc.or.kr for speaking & sponsorship opportunities. <https://apsc.or.kr/apsc-connectech-asia-2020/>

The APSCC 2020 Satellite Conference & Exhibition 17 - 19 November, Manila, Philippines

The 23rd edition of the must-attend event for Asia's space industry, the APSCC 2020 Satellite Conference and Exhibition will be held in Manila from 17-19 November. APSCC 2020 is where business leaders come together to gain market insight, strike partnerships, and conclude business deals. Incorporating industry veterans, local players, and new market entrants, the conference program reaches out to a wide-ranging audience.

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SATELLITE BUSINESS

DataMiner Increases Operational Agility at SES

March 31, 2020 - Skyline Communications announces that its AI-powered DataMiner NMS/OSS platform has recently been deployed by SES. Media and broadband businesses continuously need to adapt to new market demands in an agile manner. Consequently, a large-scale and global operation, such as the one SES has in place, has been growing and evolving for many years, and is expected to continue to do so at an even faster pace. DataMiner connects to any source of information, product, software system or API, allowing flexibility, agility and increasing efficiencies. The platform is also capable of delivering monitoring, orchestration, automation and deep insights from a single pane of glass, end to end. DataMiner is an NMS/OSS platform featuring capabilities that are required in the satellite industry, such as managing various layers of the infrastructure, including the RF up- and downlinks, comprehensive video services channel management with fully redundant workflows, and related elements such as ground station tracking and satellite telemetry data.

Paradigm's MANTA Terminal Qualified on IntelsatOne Flex

March 31, 2020 - Paradigm announces that their versatile, high speed satcoms-on-the-move and satcoms-on-the-pause MANTA terminal is now approved and fully qualified on the high-throughput IntelsatOne FlexGround network. On FlexGround, the MANTA will now be able to provide even greater throughput than previously available, dynamically accessing bandwidth where it is most needed without the operator needing to manage multiple beams and satellite. The MANTA is a field-proven Ku-Band complete solution designed for both static and mobile satellite communications. It is a single-case carry and is simple to

operate in minutes. With the MANTA+ option, users can also connect to both satellite and 3G/4G/LTE networks; so over multiple locations the terminal will seamlessly switch from terrestrial to satellite, ensuring constant connectivity and least cost routing. The MANTA's integrated PIM technology also provides crucial connectivity situational awareness for the user, allowing full control over satellite selection and operation of the terminal and simplifying satellite operations.

Myriota to Acquire Select exactEarth Satellites and Ground Stations

March 31, 2020 - Global leader in nanosatellite Internet of Things (IoT) connectivity, Myriota Canada (a wholly-owned subsidiary of Myriota Pty Ltd), has entered into an agreement with exactEarth Ltd. to acquire satellite communications assets. Significantly adding to its North American capability, the transaction, which is subject to Canadian regulatory approval, will see Myriota Canada acquire four satellites, a global network of ground station assets, and their associated spectrum licenses. The acquisition will increase Myriota's capability to deliver low-cost, low-power, secure direct-to-orbit satellite connectivity for IoT. In return, exactEarth will receive a payment of CA\$600,000; of which a portion will be reinvested into the equity of Myriota. The acquisition also signifies the creation of Myriota's first North American office, with four exactEarth experts in satellite operations, satellite engineering and spectrum management forming Myriota's on-the-ground team in Ontario, Canada. The closing of the transaction is subject to receipt of all required regulatory approvals, including the approval of Innovation, Science and Economic Development (ISED) Canada for transfer of exactEarth radio spectrum licences.

Viasat, Visiontec Broaden Brazilian Partnership to Focus on Delivering High-Speed, High-Quality Satellite Internet to Homes across Brazil English

March 31, 2020 - Viasat Inc. and Visiontec, a Brazilian-based satellite products distribution company, announced they have expanded their partnership to focus on bringing fast, reliable internet service to residential homes across Brazil. Upon completion of the launch rollout, Viasat will be able to reach 100 percent of the Brazilian continental territory, through Visiontec's in-market sales, fulfillment and technical support expertise. By partnering with Visiontec, Viasat has a dedicated, trusted, local Brazilian partner to help execute its residential service go-to-market strategy – from assisting in sales engagements to providing quick in-home installations and on-site technical support. Viasat's local field services teams will train Visiontec's vast network of distributors, dealers and installers to rapidly meet the demand for high-speed residential internet service in the country.

Inmarsat Takes Founding Role in First Decarbonising Shipping Programme for Asian Start-ups

March 31, 2020 - Inmarsat is a founding member of Asia's first 'Decarbonising Shipping' initiative to harness the power of start-ups to meet UN targets on greenhouse gas emissions, which launched earlier this month. The regional initiative, based in Singapore, is part of the Trade & Transport Impact (TTI) programme from venture development firm Rainmaking to bring startups together with backers with maritime experience and expertise. Inmarsat joined the first two cycles of TTI, held in Europe in 2019, which scouted 1,200+ start-ups and led to 24 collaboration projects. Backed by the Maritime & Port Authority of Singapore, the new initiative is expected to identify 1,000+ projects offering models to tackle decarbonisation, with selected start-ups to be matched with maritime industry leaders willing to build collaborative pilot projects. Alongside Inmarsat, other confirmed partners include Cargill, DNV GL, Hafnia, MC Shipping Inc., Vale and Wilhelmsen.

Thuraya Commits to Support COVID-19 Global Humanitarian Response Plan

March 31, 2020 - Thuraya has welcomed the launch of the COVID-19 Global Humanitarian Response Plan (HRP) announced by the United Nations Secretary-General on March 25. The company will use its expertise and apply lessons learned from the 2014-2016 Ebola outbreak, to help the global community implement the HRP and save lives during the COVID-19 pandemic. The Global HRP is a co-ordinated US\$2 billion humanitarian response to fight COVID-19 in 51 of the world's poorest countries across, Africa, the Middle East, Asia and South America. Providing ubiquitous coverage in more than 160 countries, Thuraya will enable always-on voice and internet connections for COVID-19 relief missions, especially in regions where telecommunications infrastructure is likely to be weak or unavailable. The company had a similar arrangement with ETC during the 2014-16 Ebola outbreak, when it supplied voice and broadband links for the World Health Organization, US Centers for Disease Control and Prevention, NetHope and other NGOs in the severely affected areas of Sierra Leone. Wireless connections were essential for health workers and relief agencies in different locations to stay connected and share instant updates, including emerging hotspots and rates of death and recovery. However, cellular networks could not handle the surge of user traffic. Only widespread use of satellite communications kept vital information flowing.

Isotropic Provides Unrivalled Certainty for Superyacht Sector with iDirect iQ LTE Technology

March 31, 2020 - ST Engineering iDirect, a company of ST Engineering North America, announced that Isotropic Networks, a trusted provider of global Internet services, has selected the iDirect iQ LTE technology to serve customers in the superyacht sector. This follows the successful early testing of the iQ LTE modem that demonstrated high reliability and performance over a hybrid network. The superyacht market requires strong and reliable connectivity at sea with high expectations from owners and guests for access to the full range of digital applications ranging from video conferencing to social media and streaming services, with no outages. Satellite provides superyachts with a high level of reliability due to its availability in any location, unlike terrestrial connectivity, which is only accessible near the shore. iQ LTE combines an iDirect satellite modem with an integrated Cradlepoint LTE cellular router to create a powerful converged solution that delivers persistent communications across a wide range of use cases. With this single-box solution, end-users will receive reliable connectivity from a single provider in a single bill, whilst using a smaller footprint and reducing operational management.

AXESS Networks Announces Joint Venture with Middle East Telecommunications Co.

March 30, 2020 - AXESS Networks strengthens its market presence in the Middle East by signing a joint venture agreement with the Saudi Arabian communications provider Middle East Telecommunications Co. (METelecom). The intention is to provide end-to-end managed satellite communications solutions that are designed to enhance performances of customers operating in Saudi Arabia. AXESS will provide global infrastructure, assets and long-term expertise to support the satellite-based communications networks for the new joint venture. METelecom will address the specific local requirements for corporations doing business in the Kingdom of Saudi Arabia. The joint venture will be acting as AXESS Networks Solutions Saudi Arabia and will have its office in Dammam, the capital of the Eastern Province of Saudi Arabia at the Persian Gulf. AXESS Networks Solutions Saudi Arabia will operate its own Teleport facilities and Network Operation Center out of Dammam, Saudi Arabia and under the license of the Communications and Information Technology Commission (CITC). The main focus lies on supporting the increasing demand of communications needs in different verticals, such as oil and gas, mining, maritime, telco and others.

Hughes Awarded Follow-on Contract from NAVAIR to Enhance Airborne Communications for U.S. Coast Guard

March 30, 2020 - Hughes Network Systems announced its selection by the U.S. Naval Air Systems (NAVAIR) to provide SATCOM systems integration for the U.S. Coast Guard on its HC-27J aircraft. Under the agreement, Hughes will integrate Beyond Line of Sight (BLoS) systems to strengthen the Coast Guard's missions requiring airborne Communications-on-the-Move (COTM), including Intelligence, Surveillance and Reconnaissance (ISR), humanitarian aid and disaster relief (HADR). Under this contract valued at \$3.5 million, which follows completion of a 2018 award to Hughes for BLoS system integration, Hughes will integrate components from technology providers CPI Radant and GETSAT Ltd. for installation on HC-27J aircraft – including antennas, modems, and radomes – as well as providing engineering services and technical training for testing and operations. Part of the Coast Guard's medium-range surveillance aircraft fleet, the HC-27J performs numerous maritime missions in the U.S., Canada, Mexico, and the Pacific Ocean, such as search-and-rescue, drug/migrant interdiction and disaster response.

Cobham Secures DE&S Anti-Jam Satellite Signal Contract

March 30, 2020 - Cobham Aerospace Connectivity announces that it has been awarded a contract by the UK MOD's Defence Equipment and Support (DE&S) to research Advanced Anti-Jam techniques for the protection of navigation signals received from the Global Navigation Satellite Systems (GNSS). The contract will see Cobham conduct research to develop means to provide assured and resilient Position Navigation and Timing (PNT) information derived from the GNSS multi-constellation. Cobham was best placed to address the UK MOD's needs through its extensive background in advanced antenna technology and sophisticated signal processing capabilities. The research is set against a backdrop of increasing reliance on GNSS navigation signals in the nation's critical infrastructure and national security and the frequent interruptions of the signals either accidentally or intentionally. The more sophisticated interruptions involve the falsification of the navigation signal information for nefarious reasons such as piracy, civil disruption and military advantage.

Exotrail Officially Releases ExoOPS - Mission Design and Secures Eutelsat as its Anchor Customer

March 30, 2020 - Exotrail announces the official release of its cloud-based mission design software, ExoOPS™ - Mission Design, which, after extensive testing, is now available for customers. On the occasion of the release, Exotrail has secured a contract for the utilization of the software with leading satellite

operator, Eutelsat. The mission envisioned by Exotrail is surely and steadily becoming a reality, as evidenced by the timely delivery on the milestones set in our roadmap. Following the recent announcements about ExoMG™, high-thrust, scalable electric propulsion system for small satellites, Exotrail is moving forward with its family of Mission Design and Operations software.

OneWeb Files for Chapter 11 Restructuring to Execute Sale Process

March 27, 2020 - OneWeb announced that the Company and certain of its controlled affiliates have voluntarily filed for relief under Chapter 11 of the Bankruptcy Code in the U.S. Bankruptcy Court for the Southern District of New York. The Company intends to use these proceedings to pursue a sale of its business in order to maximize the value of the company. To date, the Company has successfully launched 74 satellites as part of its constellation, secured valuable global spectrum, begun development on a range of user terminals for a variety of customer markets, has half of its 44 ground stations completed or in development, and performed successful demonstrations of its system with broadband speeds in excess of 400 Mbps and latency of 32 ms. In addition, OneWeb's commercial team has seen significant early global demand for OneWeb's high-speed, low-latency connectivity services from governments and leaders in the automotive, maritime, enterprise, and aviation industries.

nbn Increases Sky Muster™ Data Allowances, Enhances Sky Muster™ Plus

March 25, 2020 - NBN Co has unveiled new measures to support increasing capacity and data demand for nbn satellite services in regional and remote Australia during the COVID-19 pandemic. Customers on standard nbn™ Sky Muster™ services will have their data download limits increased significantly, while for customers on nbn™ Sky Muster™ Plus services, nbn will implement an increased range of applications that will not count towards monthly data quotas. Both standard nbn™ Sky Muster™ and nbn™ Sky Muster™ Plus services provide access to fast and accessible broadband across regional and remote Australia. With standard nbn™ Sky Muster™ plans, all data is metered and customers have a set amount of data each month. Currently, nbn™ Sky Muster™ Plus plans provide unmetered data for a select range of essential online activities. nbn is offering these new measures to support retail service providers (RSPs) in passing on these benefits to their customers.

RigNet Announces GSA Contract and CMMC Level 5

March 25, 2020 - RigNet has been awarded a five-year U.S. General Services Administration (GSA) Multiple Award Schedule (MAS) for Information Technology Professional Services contract. This contract includes (3) 5 year renewal periods for a potential contract term of 20 years. Through the GSA Information Technology Large Category – federal, state and local governments now have access to RigNet's state-of-the-art global networking solutions, enhanced cybersecurity, military-grade hardware encryption and real-time machine learning applications. RigNet has also instituted the 171 practices to meet Level 5 under the Cybersecurity Maturity Model Certification (CMMC). While there are currently no formal third party certifications for the CMMC, RigNet is prepared to be certified at the highest level when third party certification becomes available. The CMMC is designed to provide increased assurance to the DoD that a Federal Contractor can adequately protect Controlled Unclassified Information (CUI) at a level commensurate with the risk.

Satcom Global Upgrades Aura VSAT with Intellian NX Series

March 23, 2020 - Satcom Global has announced its flagship high-speed Aura VSAT solution now includes the very latest Ku-band hardware from the future-proof Intellian NX series of maritime VSAT antennas, including the v85NX, v100NX and v130NX models. Satcom Global made the decision to introduce the new and improved Intellian NX series to the Aura solution due to the industry leading RF design and 'best in class' performance for 85cm, 1m and 1.25m antennas. As data demands continue to grow, the high performance systems will reliably deliver Satcom Global Aura VSAT connectivity to the maritime market enabling access to the high-speed connections, quality of service and global coverage widely associated with the Aura network. The Intellian NX series delivers a number of additional benefits to Satcom Global and its maritime customers including simplified 'dome-on' installation with single coaxial cable, supported by the new Intellian AptusNX platform, leading to a quicker and more efficient install experience. The NX series also boasts increased reliability with a reduction in components and necessary spares; up to 40% through common spare parts.

Konnect Africa to Connect Schools in the Democratic Republic of Congo with High Speed Internet

March 23, 2020 - Konnect Africa, a subsidiary of Eutelsat Communications, Schoolap and Flash Services announced a MoU to connect several thousand schools across the Democratic Republic of Congo (DRC) to

the Internet as part of the Schoolap project. It aims to provide schools with high speed internet connectivity, giving them access to a digital platform of officially recognized educational content and high quality teaching materials. The first stage of the project aims to connect 3,600 private schools over the next 12 months, leveraging Konnect Africa's satellite capacity and technical expertise, notably in terms of installation. Konnect Africa has been operating for over a year in the DRC, bringing broadband connectivity to unserved or poorly served areas, by delivering a solution that is affordable, flexible and available everywhere. Currently operating with limited capacity, Konnect Africa will see its in-orbit resources increase tenfold with the entry into service of the Eutelsat Konnect satellite in the autumn of 2020. With a total capacity of 75 Gbps, Eutelsat Konnect will be able to provide speeds of up to 100 Mbps with total or partial coverage of 40 African countries.

Satellite Network with Fastest L-Band Speed Could Open up Northern Sea Route

March 23, 2020 - Passage through Northern shipping routes and Arctic waters has received a boost following the doubling of the connectivity speed of the Iridium Certus network, says maritime communications specialist IEC Telecom. As the shortest sea route between Europe and the Asia-Pacific region, the Northern Sea Route holds immense potential to compete with conventional trade lines. There has been a significant increase in maritime traffic across the main transport corridors in the Arctic, Northern Sea Route in the Russian Federation, the Northwest Passage in Canada as well as the Arctic Bridge from Canada to Europe. In fact in the Canadian Arctic, traffic has tripled between 1990 and 2015. Moreover, cargo volume in the Northern Sea Route has increased by 40% between 2016 and 2017. With the Iridium Certus 700 service becoming commercially available at speeds of 700 kbps – the fastest L-band speed in the industry, Iridium's network with pole-to-pole coverage can only serve to further unlock new opportunities for the fleets operating in the North. Fishing fleets, commercial ships, and other vessels transiting Arctic waters can benefit from enhanced connectivity in these remote and potentially hazardous waters.

Lynk First to Connect Satellite Directly to Standard Mobile Phones on Earth

March 18, 2020 - Lynk announced that it has successfully connected a satellite in low-Earth orbit to an ordinary mobile phone on Earth. The technical breakthrough enabled Lynk to send the world's first ever text message from space to a mobile phone. This milestone, witnessed by independent third-party observers, represents the critical, industry-first next step for Lynk's ultimate vision to use satellites to provide broadband services directly to over five billion mobile phones on the planet, everywhere. Lynk's patented technology allows standard cell phones, without any changes in hardware or software, to be connected virtually anywhere on the globe using low-earth-orbit nanosatellites. The Lynk network of cell towers in space will provide connectivity in the most isolated areas, providing a safety net to people in remote locations.

ESA and GateHouse Telecom Sign Contract to Develop Space-based NB-IoT Network

March 17, 2020 - The Danish satellite communications waveform and test equipment specialist, GateHouse Telecom, has with support from the Danish Agency for Science and Higher Education signed a contract with the European Space Agency. The project aims to develop a solution for extending existing NB-IoT protocols to enable a space-based Narrowband-IoT network. Supported by the Danish Agency for Science and Higher Education, GateHouse Telecom recently signed a contract with the European Space Agency (ESA) to develop a solution for extending existing NB-IoT protocols to enable a space-based Narrowband-IoT (NB-IoT) network. The project builds on the existing NB-IoT standard that, when tailored to GEO, LEO and MEO satellites, has the potential to extend the existing terrestrial networks to remote areas with no or limited coverage.

Luokung Enters into Strategic Partnership with Dianyu

March 17, 2020 - Luokung Technology Corp. announced it has entered into a strategic partnership with Jiangsu Dianyu Information Technology Co., Ltd. ("Dianyu"), to leverage each other's respective advantages, and to actively expand mobile commercial big data services in the 5G era. The two parties have signed and started implementation of a series of cooperation agreements on certain projects and services. Dianyu will rely on the SuperScylla data processing service platform of Luokung to integrate vector maps, satellite remote sensing images, IoT streaming data and other multi-format data services in order to actively expand the applications and services using dynamic trajectories in IoT and LBS. In the meantime, the marketing capabilities of Dianyu and the excellent solution service capabilities of its SaaS platform and programs like "Dianke", will bring more projects and users to Luokung. In 2020, Luokung expects to generate approximately USD 10 million revenue related to the PaaS, SaaS, and DaaS services provided by

Luokung's SuperScylla data service platform to Dianyu and its customers.

ESA Collaboration between Gilat and Carlisle Interconnect Technologies

March 16, 2020 - Gilat Satellite Networks announced the collaboration with Carlisle Interconnect Technologies (CIT), one of the world's leading designers and manufacturers of high-performance wire and cable, on a newly designed ESA terminal with an integrated Thermal Management Solution. Gilat's Electronically Steered Antenna (ESA) was the first-ever to demonstrate in-flight operation over Ka on a commercial aircraft. A series of successful test flights took place over the last few months over GEO and LEO satellites. The ESA terminal is a fully electronic beam steering, no moving parts terminal, featuring wide instantaneous bandwidth, wideband frequency support, instantaneous beam switching and gate-to-gate operation. The elegant compact design by CIT exhibits an ultra-low profile, small footprint and an all-inclusive offering of outdoor antenna equipment in a single line replacement unit for: antenna, baseplate, skirt and transparent radome.

Intellian's Next-Generation Tri-band Maritime Antenna Earns Type Approval from SES

March 12, 2020 - Intellian, globally renowned as a pioneering force in the design and manufacture of mobile satellite communication systems, has achieved further success with the news that its recently launched 2.4m v240MT Gen-II antenna has achieved type approval from SES, the leader in global content connectivity solutions. Intellian's v240MT Gen-I was the world's first 2.4m tri-band and multi-orbit antenna, winning Via Satellite's inaugural Satellite Technology of the Year Award in 2019. The v240MT Gen-II delivers enhanced performance across C, Ku and Ka bands, providing customers with access to higher throughput and offering improved network efficiency to the operator. These advances were proven in partnership with SES, with the new system producing exceptional results during testing and sea trials.

Orbsat Corp Launches New e-Commerce Storefronts and Fulfillment Centers in Singapore and UAE

March 12, 2020 - Orbsat Corp, a global provider of communication solutions for connectivity to the world through next-generation satellite technology, announces that in an effort to meet the strong demand for Mobile Satellite Solutions, the Company has accelerated its global expansion with the launch of two new E-Commerce marketplaces in Singapore and the United Arab Emirates (UAE). The new storefronts and fulfillment centers, supported by Amazon's regional logistics capabilities, allow Orbsat to offer an increased range of products and services to customers throughout South East Asia and the Middle East. The additional marketplaces will increase the Company's online presence and order fulfillment capabilities to 14 countries around the world, serving customers 24x7x365. The new marketplaces will feature an expanded catalog of mobile satellite service products including an assortment of communications equipment and tracking devices from providers including Garmin, Globalstar, Iridium, Inmarsat, Motorola Solutions and Thuraya, as well as an array of prepaid and monthly subscription voice and data airtime options.

ST Engineering iDirect Awarded WTA Teleport Technology of the Year for Newtec Dialog

March 11, 2020 - ST Engineering iDirect, a company of ST Engineering North America, has been presented with the World Teleport Association's (WTA) 2020 Teleport Technology of the Year for its Newtec Dialog® platform at SATELLITE 2020. Giving operators the ability to offer a variety of mobile and fixed services through a future-proof system, the Dialog platform features a flexible licensing model and modular hub architecture that enables service providers to "pay-as-they-grow." It is easy to upgrade, with service providers able to add outbound carriers, return technologies, and throughput capabilities to address new opportunities and markets quickly and directly. The range of applications the platform addresses includes consumer and enterprise Very Small Aperture Terminals, government and defence, broadcast, aeronautical, land-mobile, maritime, cellular backhaul and trunking.

Hughes Awarded Contract to Connect U.S. Army's UAV with Next Gen Satellite Communications

March 11, 2020 - Hughes Network Systems, LLC has been awarded a Data Link Modernization (DLM) contract by General Atomics Aeronautical Systems, Inc. (GA-ASI) to provide new advanced satellite communications (SATCOM) systems for the U.S. Army's MQ-1C Gray Eagle Unmanned Aircraft System (UAS). Under the contract, Hughes will provide advanced, ruggedized HM400 modems that integrate with the DoD's waveform technology to support the wide range of unique mission requirements of the U.S. Army - including operations in contested environments. Hughes will provide both air and ground modems for the U.S. Army Gray Eagle Extended Range UAS platform with ongoing software upgrades to maintain continuous operational resiliency. Hughes will work with Comtech Telecommunications Corp. on the production of ground equipment and waveform technology in support of the program.

HySpecIQ Selects BridgeComm as Communications Partner for Satellite Hyperspectral Imaging

March 11, 2020 - BridgeComm, Inc., a leader in optical wireless communications (OWC) solutions and services, announced that it was selected as the OWC solution provider for HySpecIQ's new low earth orbit (LEO) constellation. These advanced satellites will provide high-resolution hyperspectral imaging that – when combined with HySpecIQ's advanced analytics platform – will serve vital needs in myriad market verticals, including environmental intelligence, national security, natural resources, agriculture, insurance, and risk management. BridgeComm has quickly garnered attention as the first organization to commercialize OWC and begin development of a global network of optical ground stations designed to support complementary fixed and mobile terminals that provide high-bandwidth, high-security solutions for unique applications.

hiSky Partners with ST Engineering iDirect to Enable IoT Over Satellite

March 10, 2020 - hiSky aims to be the world's leading provider of satellite-connected IoT services, bringing its innovative integrated terminal and cloud-based processing technology to the rapidly expanding satellite-based M2M/IoT communications market. The solution to be offered in conjunction with ST Engineering iDirect will enable their mature network of service-provider partners to leverage their existing GEO satellite capacity to reduce costs and time-to-market associated with building and launching new IoT service through an innovative Platform-as-a-Service (PaaS) approach. The hiSky solution utilizes a family of compact, lightweight IoT terminals that feature a tightly-integrated satellite modem and flat-panel antenna design in Ka-band or Ku-band variants. The initial IoT offering includes Low Data Rate (LDR) and Medium Data Rate (MDR) service for deployment within both fixed and mobile environments. Leveraging integrated flat-panel technology, the Smartellite™ family of terminals allows for transmitting and receiving IoT/M2M data through GEO satellites in both the Ka and Ku bands. The Smartellite™ terminals are designed from the outset to meet the extremely high speeds of LEO satellites, and to perform quick handover between GEO and LEO satellites, without losing connectivity, offering customers a future-proofed solution.

TheAngle and ABS Consolidate Their Relationship to Serve Customers in the MENA Region

March 10, 2020 - ABS and TheAngle, a satellite network services integrator, has announced they have extended their joint activities in the MENA region, serving customers across the ABS' footprints at 75 degrees East. The collaboration focusses on providing energy, enterprise and government customers with bespoke, cost-effective communication solutions including ground segment facilities and flexible bandwidth allocations on ABS-2 and ABS-2A satellites, co-located at the prime location of 75°E. Both satellites offer prime capacity over the Middle East, accessible also from Europe, as well as coverage of the African and Asian continents over multiple beams. The satellite services demand in the MENA market remains strong, driven by traditional verticals such as oil and gas, maritime/mobility and governmental. Broadband, video contribution and video distribution are also key applications hosted on the ABS satellites.

NSR Launches New Data Portal for Data Visualization & Customized Data Requests

March 10, 2020 - Northern Sky Research (NSR) has announced its new research data offering, the NSR Data Portal. Built from over 20 years of industry leading data analysis, the NSR Data Portal is a customizable data visualization tool. It provides clients the flexibility to focus on specific areas of interest, compare cross sections of NSR's expansive satellite & space data library, drill-deep into regional or yearly trends, and iterate quickly through NSR's industry-leading knowledge base to uncover emerging trends vital for success. For users that have highly specific requirements, tailored subsets of data can also be requested via the NSR Data Portal – allowing insights to mission-critical business planning needs.

ST Engineering iDirect Announces Wideband Global Satcom Certification of its Newtec MDM9000 Satellite Modem

March 10, 2020 - ST Engineering iDirect, a company of ST Engineering North America, has announced that its Newtec MDM9000 modem has received the Wideband Global SATCOM (WGS) Certification. This expands its portfolio of WGS-certified solutions, which include the iDirect Evolution Defense platform, Tactical Hub, and 9-Series family of modems. Designed to support a wide range of fixed and mobile government and defense applications, the field-proven MDM9000 modem is now one of the most powerful DVB-S2X modems operating on the WGS constellation. Its flexibility and efficiency open up new capabilities for high-speed data links, complementing existing WGS-certified Evolution Defense solutions. The MDM9000 is ideal for aggregating data – from sensor data to video footage – to be sent back to a central location, as well as any other applications requiring point-to-point, dedicated links. In addition, its

bulk encryption module provides 256-bit AES link encryption on both content and management layers to provide the security that is paramount in military operations.

Speedcast Launches Global Standardized SD-WAN Solution

March 10, 2020 - Speedcast International Limited has launched an advanced software-defined wide area network (SD-WAN) solution that seamlessly blends satellite, LTE, wireless and fiber technologies. Designed for onshore and offshore users, the solution provides customers with high performance and dynamic access to applications across networks, with greater ease of use and lower cost than traditional network management systems. As networks and satellite connections grow, network management becomes crucial to ensure seamless business operations. Customers require mission-critical communications combining different WAN link technologies to maximize their available bandwidth and application uptime while streamlining costs. Speedcast has simplified link management by introducing a best-in-class SD-WAN solution. With all disparate WAN links configured inside a secure conduit, Speedcast SD-WAN simplifies routing through a single, end-to-end solution that dynamically routes traffic across the best available links and aggregates the bandwidth to maximize throughput. It offers the highest uptime availability and allows users to maintain a high quality of experience even at over 90% link bandwidth utilization.

Kymeta Is Making Mobile Global by Completing the Connectivity Fabric for Land and Mobility

March 10, 2020 - Kymeta, the communications company making mobile global, announced the commercial availability of its next generation flat panel electronically steered antenna platform, the Kymeta u8. The new u8 terminal paired with Kymeta's hybrid satellite-cellular connectivity services transforms the purchase and consumption of mobile data with an all-inclusive hardware, connectivity and services monthly subscription starting at \$999. The Kymeta u8 is the world's only commercially available flat panel electronically steered antenna built specifically for mobility and designed for the needs of both military and commercial customers. The Kymeta u8 antenna enables complete coverage of the Ku-band with highly reliable electronic beam steering and no moving parts. It is available as an antenna, as a terminal, or in flyaway configurations, and it can be paired with Kymeta's new satellite and hybrid satellite-cellular connectivity solutions.

Hughes and OneWeb Announce Global Distribution Partnership for LEO Satellite Service

March 9, 2020 - Hughes Network Systems and OneWeb announced that Hughes has become a worldwide distribution partner for OneWeb. OneWeb's constellation of Low Earth Orbit (LEO) satellites will expand Hughes service offerings and ensure its customers can access low-latency, high-speed connectivity, wherever they are. Applications will include enterprise and government networking, cellular backhaul and community Wi-Fi hotspots. The new agreement expands an already successful relationship between the two companies. Hughes is an investor, through its parent company EchoStar, and an ecosystem partner to OneWeb, helping to develop essential ground network technology for OneWeb's LEO system. OneWeb works with carefully selected distribution partners in each of its core markets, providing new business and expansion opportunities through the low latency, global, high throughput attributes of OneWeb's network.

Intellian Signs Production Contract to Build a Range of OneWeb User Terminals

March 9, 2020 - Intellian has signed a contract with OneWeb to manufacture User Terminals for use on the OneWeb Network. OneWeb and Intellian announced their partnership to develop a wide range of User Terminal types for fixed enterprise and maritime markets in 2019, and promised availability for delivery in the fourth quarter of 2020. Now that OneWeb has signed the production agreement with Intellian, the first User Terminals will go into production immediately. The User Terminals will be deployed to offer global service using OneWeb's satellite constellation, delivering high throughput and low latency digital connectivity for enterprise, cell backhaul, maritime and government markets. In a preliminary test setup, Intellian has already demonstrated superior data speeds and extremely low latency using the newly designed Intellian OneWeb User Terminals connected to OneWeb's Low Earth Orbit (LEO) satellites. This contract includes the production of a wide range of dedicated OneWeb User Terminal types in a variety of antenna sizes, designed to suit various customer application requirements including businesses in rural areas, cellular backhaul networks, schools, hospitals, farms, merchant shipping and governments. This contract also incorporates an option of utilizing existing Intellian NX series terminals with an ability to upgrade them to operate on the OneWeb LEO constellation in the future.

Kacific1 Broadband Services Commence across Asia Pacific

March 9, 2020 - Kacific1, Kacific Broadband Satellites Group's (Kacific) first communications satellite, has entered commercial service and is ready to support customers across Asia Pacific. Designed and manufactured by Boeing, Kacific1 is a high-throughput, Ka-band satellite which successfully launched on 16 December 2019 from Cape Canaveral, Florida. The payload and bus platform have been thoroughly tested and all 56 spot beams are now operating with full capability from the 150E orbital position. Kacific engineers are upskilling local engineers in the installation and maintenance of the satellite ground technology. The rapid rollout will continue in coming months connecting both new end users and those being transferred from the provisional Ku-band network to Kacific1's Ka-band services. Kacific's affordable, high-speed broadband services are available in these countries through local telecommunications and internet service providers – Pacific: American Samoa, Cook Islands, Fiji, French Polynesia, Guam, Kiribati, Micronesia, New Zealand, Niue, Northern Mariana, Papua New Guinea, Samoa, Solomon Islands, Tonga, Tuvalu, Vanuatu. Asia: Bangladesh, Bhutan, Brunei, Indonesia, Malaysia, Myanmar, Nepal, Philippines, Timor-Leste and Southern Thailand.

SatixFy Announces World's First 1 GHz LEO/GEO Modem Chip

March 9, 2020 - SatixFy Space System announced a new modem chip to be used over LEO, MEO and GEO systems, with appropriate doppler and fade profile performance. The Sx3099 hosts 1 to 8 modems with aggregated throughput of 1 Gsym/sec in both Tx and Rx directions. A single Sx3099 chip provides a single 1 Gsym/sec carrier 2 X 500 Msym/sec "make before break" handover in LEO aero connectivity, 8 X 125 Msym/sec or any combination of channels aggregated to 1 Gsym/sec. This is the first chip to fully support the entire DVB-S2X standard including all Beam Hopping modes as defined in the 2019 revision annex E. On top of previously defined formats, the chip includes all the new Super-frame format types 5, 6 and 7 ("point and shoot" Beam Hopping). Sx3099 includes native support for DVB-RCS2 400MHz transmission as well as complete Software Defined Radio (SDR) for any other waveform.

Norsat Launches Enhanced 5G Interference Products to Mitigate Terrestrial Interference in C-band

March 9, 2020 - Norsat International Inc., a leading provider of innovative communication solutions that enable the transmission of data, audio and video for remote and challenging applications, announced the launch of two new products in its 5G interference solution to further address issues of terrestrial interference within the C-Band spectrum. The latest 5G interference products include: 3200-sBPF PLL LNB – Optimal for maritime terminal applications, this combines an LNB and a Band Pass Filter into a single compact form factor and can switch in and out the filtering between full and concatenated portion of the C-Band spectrum, allowing customers to use the full C-band when they are at sea and switch in the 5G filtering when they are close to shore; BPF-C 5G Band Pass Filter – A high-performance band pass filter with a narrow guard band that is easy to install, environmentally sealed, and moisture resistant.

ST Engineering iDirect Unveils Next Generation Mx-DMA Technology

March 9, 2020 - ST Engineering iDirect has introduced its Mx-DMA MRC (multi-resolution coding) technology which unites SCPC (single carrier per channel) efficiency and TDMA (time-division multiple access) scalability in an innovative way, adding ground-breaking new dimensions of adaptivity. Building on the well-established, award-winning Mx-DMA technology, Mx-DMA MRC will answer the market's call for unprecedented service agility, extending the availability of Mx-DMA to very large networks and expanding the applicability and use of the technology to include a full spectrum of use cases. The introduction of Mx-DMA MRC brings forth the full scalability of TDMA return link technologies to the original Mx-DMA HRC (high resolution coding) return at the same efficiency levels. Service providers can now cover a myriad of use cases in a single return link, from cruise ships and large enterprise customers to SCADA (supervisory control and data acquisition) and broadband access, sharing satellite capacity more efficiently over a group of satellite terminals and applications achieving the lowest total cost of ownership.

eSAT Global and Smart Paddock to Address \$9 Billion Meat and Livestock Opportunity

March 6, 2020 - eSAT Global, Inc. announces its partnership with Smart Paddock, creator of the "Bluebell" multisensory livestock tag. Together they will seek to provide over \$9 billion in benefits to the Meat and Livestock industry. The initial phase of the project will result in large scale field trials of eSAT's miniaturized, direct-to-GEO-satellite communication modules integrated with the Bluebell Tags. These trials represent a new stage of the development for the Bluebell Tags, they are expected to be begin by Q4 of 2020 and lead to global availability in 2021. Mandated traceability of Cattle in Australia is about to move into the next phase. Passive identification will be usurped by real-time tracking, health reporting, theft protection, enhanced biosecurity and identification. Livestock will now be able to be traced on and off the

farm and live exports will be able to be monitored all the way to their final destination. eSat and Smart Paddock are targeting extended device & battery life to meet the demanding requirements of Australia's biosecurity regime.

SES and Isotropic Systems Enter New Phase of Customer Edge Terminal Antenna Development to Unleash O3b mPOWER

March 5, 2020 - Isotropic Systems and SES announced a new developmental phase of their collaborative partnership to produce scalable, cost-effective multi-beam customer edge terminal antennas capable of unlocking access to the groundbreaking O3b mPOWER system across government and defence, telco and cellular backhaul, aero, maritime, and offshore markets. Together with SES, Isotropic Systems will review, refine, and test key components of its full line of customised digital software-defined terminals throughout 2020, optimising the tiered platform to meet specific performance, cost, power, and connectivity requirements of user cases around the world. The development roadmap will culminate in a series of comprehensive engineering evaluations of Isotropic Systems' multi-beam antenna components, prior to the commercial launch of the customer edge terminals and the O3b mPOWER Medium Earth Orbit (MEO) system in 2021.

Hughes Innovates Multi-transport Technologies, Demonstrates Hybrid Solutions to Meet Growing Demand for Anywhere, Anytime Connectivity

March 5, 2020 - Hughes Network Systems announced a new suite of innovations that advance connectivity beyond single-transport services, yielding smart solutions for small business, enterprise, aeronautical, and military applications. New Hughes technologies include multi-transport terminals, satellite roaming capabilities and patented Hughes ActivePath technology that dynamically senses and selects the best available transport technology. The Hughes HT2000L multi-transport terminal provides connectivity for both satellite and cellular/LTE services, each operating either as the primary network path or as back-up, with automatic failover switching between the two. In another first, the JUPITER System, the Hughes VSAT platform for broadband satellite implementations on land, at sea and in the air, now supports roaming capabilities for aeronautical and maritime mobility applications. Any JUPITER-equipped vessel or aircraft can roam into any other authorized JUPITER-powered system around the world. Moreover, when integrated with antenna control, JUPITER terminals can roam seamlessly between GEO and NGSO satellites, as demonstrated during a recent test flight which also achieved 265 Mbps of throughput to the aircraft. A proprietary, artificial intelligence (AI)-driven technology, Hughes ActivePath automatically classifies customer traffic flows and selects the best mode of transport – such as HTS or LTE – to optimize the transmission. Already in use at nearly 3,000 sites, Hughes ActivePath is blazing a new trail of hybrid solutions that intelligently utilize multiple transports with varying throughputs, latency, data costs and coverage area to improve performance and reliability.

Van Oord Selects Marlink for Licensed VSAT Connectivity in Indian Waters

March 5, 2020 - Van Oord has selected Marlink's high throughput VSAT for connectivity in Indian territorial waters, through an agreement with India's licensed Inflight Maritime Connectivity (IFMC) service partner, Nelco Ltd (Nelco). Van Oord has signed a fixed term contract for Marlink's SeaLink VSAT service after the successful conclusion of a trial in October 2019 onboard the trailing suction hopper dredger Volvox Asia. The capacity agreement ensures that Van Oord vessels can stay connected to flexible, resilient and high-speed broadband even in areas where previously, regional regulations could prohibit or restrict their ability to stay connected via satellite. It also means that customer vessels can remain in compliance with reporting requirements of national and international regulations. Satellite communications are subject to license restrictions when operating in Indian waters, meaning that VSAT must be turned off, unless using a licenced service provider.

Boeing HorizonX and BridgeComm Pioneer Ultra-fast Optical Mesh for Terrestrial, Airborne and Space Applications

March 5, 2020 - BridgeComm, Inc., a leader in optical wireless communications (OWC) solutions and services, announced the next stage in its relationship with Boeing HorizonX. The two companies are collaboratively pioneering the development of applications of One-to-Many (OTM) technology, a breakthrough in OWC that provides bi-directional, ultra-high-speed mesh connectivity for terrestrial, airborne and space systems. OTM builds on the basic connectivity that traditional point-to-point optical terminals provide and enables a much broader set of telecommunication applications. This technology enables optical wireless communications systems to create bi-directional mesh connectivity similar to, and complementary with, radio frequency systems. OTM is capable of supporting terrestrial, airborne and

space systems that require 10-100+ Gbps throughput, as well as the high reliability and redundancy inherent in mesh architecture. OTM maintains the inherent security features in OWC, while supporting the mesh architecture. OTM also provides a much-needed new option for high-speed connectivity in environments where RF spectrum is limited or congested.

Comtech Xicom to Premier Three New GaN SSPA Product Lines

March 5, 2020 - Comtech Xicom will introduce three new lines of SSPAs and BUCs at Satellite 2020 in Washington DC. Bobcat DC BUCs – Designed for compact terminals needing high power from very small packages. Bobcats enable users to shrink their footprint while speeding their link. BUCs are available in X, Ku and Ka-band at powers up to 64 Watts. PUMA SSPAs/BUCs – Designed for fixed and transportable terminals, Pumas are flexible, high-performance AC-powered outdoor SSPAs. Amplifiers and BUCs are available at X, Ku and Ka-band with power levels from 80 to 500 Watts supporting a wide range of power levels and redundancy options. Falcon Airborne SSPAs/BUCs - Designed for airborne satcom systems needing high power density with high efficiency, Falcons are high-performance, in-cabin and cabin-exterior SSPAs/BUCs designed for and certified to DO-160 and MIL-STD-810 requirements. Amplifiers are available in Ku and Ka-band, including multi-band switchable BUCs built into the Ka-band units.

Atos Provides Advanced Satellite Monitoring Solution to Arabsat

March 5, 2020 - Atos, a global leader in digital transformation, has been chosen by Arabsat, one of the world's top satellite operators and leading satellite services provider across the Middle East and Africa, to provide a state-of-the-art satellite monitoring solution to mitigate interferences in Arabsat's satellite services and ensure the highest quality of service to its end-users. The Atos solution, the SkyMon carrier monitoring system (CMS), is now operational at Arabsat's ground stations throughout the region, including a main site in Riyadh, Saudi Arabia. It monitors all payload signals and traffic within Arabsat's satellite fleet, in different locations, 24 hours a day, 7 days a week – to detect interferences in real time and help Arabsat eliminate service interruption. This is a key asset to deliver the optimal quality and ensure the reliability of Arabsat's satellite services to its customers. More specifically, the Atos solution performs spectral, radio frequency and quality of service (QoS) measurements to detect interferences, unwanted signals, transmission breaches or unknown satellite carriers – whether they are hidden or visible on the spectrum, continuous or intermittent. All of these can be identified on one single solution in order to take prompt counteractive measures.

Inmarsat's Fleet Xpress Feeds Capability for Subsea Data Streams with Second Project for Nekton Research Institute

March 5, 2020 - Inmarsat's Fleet Xpress, the world's leading maritime broadband service, has once more been chosen to provide the connectivity backbone enabling images captured by the deep ocean research institute, Nekton from the floor of the Indian Ocean to be transmitted to audiences worldwide. The Nekton Institute is an independent, not-for-profit research institute working in collaboration with the University of Oxford. It aims to accelerate the scientific exploration and protection of the oceans. The 2020 mission entitled 'First Descent – Midnight Zone' will include a 35-day long voyage starting in mid-March exploring biodiversity around the Maldives, Seychelles and the High Seas. Video, audio and - for the first time - data will be transmitted from the deepest parts of the High Seas in the Indian Ocean to the research vessel Pressure Drop, then relayed via Fleet Xpress to marine science projects focusing on sustainable oceans.

ThinKom Develops Prototype for Next-Generation NGSO Satellite User Terminals

March 5, 2020 - ThinKom Solutions, Inc. has unveiled a prototype low-cost, lightweight user terminal for the emerging multi-billion-dollar consumer and enterprise satellite communication markets. The ThinWave® Ku13 user terminal is a compact, lightweight unit that offers the spectral efficiency, beam agility and switching speeds to work efficiently on satellites in low-Earth orbit (LEO), medium-Earth orbit (MEO) and highly elliptical orbit (HEO). The new user terminal is built on ThinKom's patented CTS parallel plate flat-panel antenna technology, which has been field proven and deployed by government and commercial users across the globe. ThinKom has worked closely with a Tier 1 contract manufacturer to incorporate proven high-volume manufacturing processes and materials that have reduced manufacturing costs without compromising performance in terms of spectral efficiency, reliability and constellation interoperability. The full-duplex antenna terminals boast 60 percent lower profile and 75 percent lighter weight as compared to traditional parabolic dishes of comparable performance. ThinKom's user terminals reduce both installation costs and maintenance costs.

Get SAT Introduces Micronized Mobile Broadband SatCom Terminals for SES's O3b MEO Network

March 4, 2020 - Get SAT, a leading manufacturer of efficient portable satcom terminals offering high data-rate communications for ground, air and maritime applications, has announced that its Micro SAT and Milli SAT are compatible with SES's O3b MEO-based solutions and provide versatile data communications of up to 10 Mbps for mobile applications. O3b is the only commercially successful non-geostationary satellite communications system operating in Medium Earth Orbit (MEO), providing high-throughput low-latency fibre-like capabilities for a variety of applications, including communications on the move. Only 20-60 cm. in size, Get SAT's product line of micronized terminals is designed to deliver high data rate low latency service of broadband communications. Get SAT terminals provide highly versatile solutions for applications requiring smaller terminals. As the leading provider of new generation small terminals, we set new standards for lightweight, small-sized and low power consumption communication devices. Our fast-tracking technologies, using a miniaturized interlaced flat panel antenna that combines receive and transmit elements and is capable of moving at speeds of 200 degrees per second, enable quick and seamless handover between O3b satellites.

ABS Joins the Space Safety Coalition Organization

March 4, 2020 - ABS has joined the Space Safety Coalition (SCC) group. The Space Safety Coalition aims to promote responsible space safety through the voluntary adoption of relevant international standards, guidelines, and its best practices. Endorsed and supported by 40 organizations including satellite operators, manufacturers, insurers, space industry associations, and other government and industry stakeholders, the coalition encourages best practices to implement and improve space safety through operational guidelines and design standards.

Viasat, Blacktree Technology Sign Agreement to Enhance Support for the Australian Defence Force

March 4, 2020 - Viasat Inc. announced it signed a Strategic Alliance Agreement (SAA) with Blacktree Technology Pty Ltd (Blacktree), an Australian-based communications systems design and integration company, in November 2019. The SAA will enable Viasat and Blacktree to meet the needs of the Australian Defence Force (ADF) requirements, by providing rapid and cost-effective in-country manufacturing and support services for Ultra High Frequency (UHF) satellite communications (SATCOM) systems. Viasat's leadership in critical technology segments such as SATCOM, tactical networks and cybersecurity offers an opportunity for Australia to modernise systems used by the ADF. Viasat is a leader in UHF SATCOM and is working to assure global 25-kHz Demand-Assigned Multiple-Access and next-generation Integrated Waveform (IW) networks and services, enabled by Viasat's Visual Integrated Satellite communications Information, Operation and Networking (VISION) software platform continue to meet military mission requirements. Viasat's Ka-band broadband satellites combined currently offer more bandwidth than any other satellite operator in the world.

COMSAT Strengthens Redundancy and Terrestrial Network with Significant Teleport Expansions

March 4, 2020 - COMSAT Inc. is making significant investments in its Tier 4 certified U.S. teleport and ground network infrastructure. The physical expansion enables COMSAT to create new levels of terrestrial redundancy, bolster its military-grade cybersecurity offering, and increase capacity across its entire network. The development will also support working with multiple global carriers to optimize more geographically diverse network routes, minimizing latency and outage times. Through the acquisition of additional land, the building of three new 7.3M Ku-band antennas, and the re-sectoring and re-anchoring of existing antenna assets, COMSAT will provide augmented connectivity access to a diverse range of satellites, including GEO, LEO and MEO constellations from both its Southbury, CT, and Santa Paula, CA. teleports. Upon completion in March 2020, the enhanced operations will boost COMSAT's extensive network ensuring consistent, comprehensive redundancy and seamless connectivity solutions for satellite partners and customers operating in multiple service environments worldwide.

Rakuten and Vodafone Invest in AST & Science's Space Venture

March 3, 2020 - Rakuten and Vodafone have become the lead investors in a venture to extend mobile coverage to more people and devices across the planet, using the first mobile broadband network that will be broadcast from space. Branded SpaceMobile, the low-Earth-orbit (LEO), low-latency satellite network from AST & Science will be the first in the world to connect directly to standard smartphones. The company holds an extensive patent and IP portfolio for its ground and space technologies. AST & Science will initially offer 4G services to partner networks globally, with 5G delivered in the future. The SpaceMobile network will enable seamless roaming to and from terrestrial cellular networks at comparable data rates without any need for specialized satellite hardware. In addition to its investment in

AST & Science, Vodafone has agreed to a strategic partnership and will contribute technical, operational and regulatory expertise in support of the global deployment of SpaceMobile. AST & Science successfully tested its SpaceMobile technology aboard the BlueWalker 1 satellite, launched in April 2019, and has been further validating the technology following that initial flight.

NOVELSAT Introduces Comprehensive Solution for Mission Critical Satellite Communications

March 3, 2020 - NOVELSAT, a leading provider of next generation content connectivity solutions, announced a comprehensive solution for mission critical satellite communications. The growing cyber threats to satellite communications requires new levels of security and protection for mission critical communications of government's military, defense, security and emergency organizations. Designed to deliver highest levels of transmission security, robustness and resiliency, NOVELSAT introduces comprehensive solution to meet the growing applications and requirements of mission critical satellite communications. Securing the content, protecting the transmission and preventing interception, the comprehensive solution provides a wide-ranging security suite that encompasses functionalities and capabilities for communication security (COMSEC), transmission security (TRANSEC), low probability of interception (LPI) and low probability of detection (LPD).

SES Announces Next Phase of Strategic Transformation

March 2, 2020 - SES is launching a comprehensive programme to position itself for future growth and deliver maximum value to current and future customers and stakeholders. The programme, called Simplify and Amplify and executed throughout 2020, comprises a series of strategic actions to enable SES to best deliver against its declared purpose of doing the extraordinary in space to deliver amazing experiences everywhere on Earth. It is the next phase in a process that began in 2017 when SES first established distinct units for its video and data businesses. SES sees enormous opportunities in its core markets given the changing dynamics of the video and data industries, and this programme is designed to position SES as the leader in global content connectivity solutions – operating as an efficient, high-performance partner that is simpler to do business with, and strengthening its position as the partner of choice for the world's leading broadcasters, governments, telcos, cloud solutions providers, and comms-on-the-move customers.

BROADCAST

Globecast Attains Security Assessment for its Digital Cinema Business from Trusted Partner Network

March 31, 2020 - Globecast has announced that it has successfully received security assessment from Trusted Partner Network (TPN) for its Digital Cinema business to address video piracy and content redistribution. Formed in 2018 by the Motion Picture Association (MPA) and the Content Delivery & Security Association (CDSA), the TPN program is a high-level, industry-wide film and television content protection initiative that helps companies safeguard their content. "The TPN program helps companies prevent leaks, breaches, and hacks of their customers' movies and television shows prior to their intended release and seeks to raise security awareness, preparedness, and capabilities within our industry," says TPN. Through a single benchmark of security preparedness, it enables vendors to assess the security readiness of their facilities, staff and workflows against industry best practices. Once a vendor completes a TPN assessment, they are then published in an online directory of trusted partners that's accessible to all production, post-production and distribution operations involved, allowing content owners to quickly and easily assess their level of security. Globecast's Digital Cinema service handles the transferring of digital content quickly and efficiently to 1,300 theatres in France (representing over 5,100 screens) through the public internet. It is also expanding this business across other international markets. Globecast manages everything from ingest and storage of the DCP files on premises to monitoring quality control and delivery notification via SMS or email.

Outdoor Sport Channel Chooses Globecast for Worldwide Distribution of Content

March 25, 2020 - Globecast, the global solutions provider for media, has announced a multi-year partnership with United Kingdom/Netherlands-based Outdoor Sport Channel for the worldwide distribution of its HD and 4K content to MVPDs (multichannel video programming distributors) and as the exclusive distributor in the US. The deal includes the distribution of the linear channel and video-on-demand content on all platforms including CATV, DTH, IPTV, OTT and smart TVs for North America, South America, Europe, the Russian Federation, Asia-Pacific, and exclusively in the US. Globecast is a leading provider of both content aggregation and end-to-end media delivery for network programming from

around the globe. Globecast is a preferred content provider to most US major MVPDs with direct and dedicated fiber feeds from its broadcast center in Culver City, CA. This latest deal further adds to Globecast's growing Content Acquisition, Aggregation, & Distribution (CAAD) business.

AVIWEST Unveils New RACK Series Video Encoders for Live Contribution and Production

March 25, 2020 - AVIWEST, a global provider of video contribution systems, has announced its new RACK Series, the next generation of the company's video contribution encoder set to be released this summer. By integrating a best-in-class hardware H.265/HEVC encoder as well as an H.264/AVC encoder into a compact platform, the RACK Series is designed for space-constrained live production, including contribution applications and multicamera remote/at-home productions. The RACK Series is designed to be deployed in fixed locations and directly connected on wired IP networks, offering a real cost-effective alternative to satellite or fiber. In addition, the RACK Series can be used on vans or trucks and connected to a roof-mounted AVIWEST QUAD CellLink 3G/4G antenna or KA satellite transmitter, enabling video broadcast from any location around the world, even in the midst of unpredictable and unmanaged network conditions.

Integrated Services Monitoring Capability Launched by Bridge Technologies

March 23, 2020 - Bridge Technologies has announced ISM (Integrated Services Monitoring), an all-embracing suite of tools, designed to deliver invaluable insights into the performance of content production, contribution and distribution networks not only for engineers charged with day-to-day operations but for management to assess the overall performance of the operation. Integrated Services Monitoring is an approach to quality that addresses the multiple layers of the broadcast and media cycle – from production through signal acquisition, contribution streams, OTT/streaming media, traditional broadcast distribution with DTT or Satellite to picture archiving. Bridge Technologies' extensive product offering ranges from embedded systems and software-based probes to software control systems that support all currently commercial available standards and media formats, all designed to deliver in-depth, intuitive understanding of the end-to-end broadcast process. Integrated Services Monitoring enables a unique, pre-integrated approach to the most complex tasks facing the modern broadcaster, putting automated eyeballs on all acquisition, delivery and production media streams – all from a single vendor, avoiding the need for complex bespoke engineering.

PCBL Selects ATEME for Downlinking of Television Content throughout the Pacific

March 17, 2020 - ATEME, the leader in video delivery solutions for Broadcast, Cable TV, DTH, IPTV and OTT, has announced that it has provided Kyrion DR5000 Integrated Receiver Decoders (IRDs) to Pacific Cooperation Broadcasting Limited (PCBL), a New Zealand Government initiative that supports Pacific free-to-air broadcasters through the delivery of New Zealand-originated content for rebroadcast, and the provision of training to encourage the production of local content. PCBL opted for 52 DR5000 IRDs for its easy setup; fast signal lock; and industry leading RF robustness. A future-proof solution, the ATEME IRDs provide support for HEVC, in addition to 10-bit 4:2:2, SD, HD, UHD, MPEG2 and H264 to be installed into the 25 downlink locations. The Kyrion solution provides PCBL and its regional partners – which covers approximately 20% of the Earth's surface – with unmatched reliability and video quality. Professionalism, ease of use, and reliability both in terms of the product itself and ATEME's ability to deliver according to the project's tight schedule were key factors in PCBL's decision making. ATEME is recognized worldwide as a trusted long-term partner who can assist customers like PCBL in the implementation of its current and future vision.

Foxtel Expands Ultra HD Services with Harmonic

March 11, 2020 - Harmonic announced that Foxtel, a leading subscription-TV provider in Australia, has deployed Harmonic's software-based Electra XOS live video processor to increase efficiencies in its Ultra HD service offering. Utilizing the AI-powered Electra XOS solution, Foxtel is able to deliver additional Ultra HD programming using the same fixed bandwidth capacity. Harmonic's Electra XOS solution, part of Harmonic's market-leading Electra family, brings together industry-leading expertise in video algorithms and the latest in AI innovation to deliver exceptional video quality when bandwidth is limited. The solution supports streaming and broadcast formats, HDR processing, uncompressed and compressed IP inputs, and integrated packaging to simplify live video workflows. The software-based Electra XOS platform allows for continual updates with the latest technology advancements, ensuring that Foxtel stays ahead of the curve.

Space Video Company Sen Awards Contract to NanoAvionics

March 5, 2020 - Sen, a British space company establishing video streaming media to provide real-time and

timely Ultra-High Definition (UHD) video of Earth, has contracted NanoAvionics to build the first five nano-satellites of its constellation. Sen has already demonstrated its technology of streaming ultra-high definition (UHD) video from space. It is now focused on developing its "EarthTV" constellation of nano-satellites to stream real-time and timely videos from space. The service, which will include a freely accessible app for individuals, will be used for monitoring environmental events and natural disasters such as wild fires, floods and storms, as well as monitoring climate change and movement of large groups of people. As the start of Sen's mission to create its "EarthTV" constellation, NanoAvionics will build the 16U nano-satellite buses and integrate Sen's payload at their European manufacturing and research facility in Vilnius, Lithuania. Each satellite will be equipped with several UHD cameras, providing multiple perspectives of Earth, from wide angle imagery down to 1.5M resolution. The envisaged launch of the first nano-satellite, EarthTV-1, will take place by mid-2021. Following a successful test demonstration of EarthTV-1, sending real-time UHD quality video from low Earth orbit (LEO), NanoAvionics will build the remaining four nano-satellites for launch in 2022.

LAUNCH / SPACE

Mitsubishi Electric Begins Developing the GOSAT-GW Satellite for Greenhouse Gases and Water Cycle Observation

March 30, 2020 - Mitsubishi Electric Corporation announced that it has been designated by the Japan Aerospace Exploration Agency (JAXA) as the contractor of the Global Observing SATellite for Greenhouse gases and Water cycle (GOSAT-GW), the third in the GOSAT series, and has already initiated development activities. GOSAT-GW will have two missions: greenhouse gases observation for Japan's Ministry of the Environment and the National Institute for Environmental Studies (NIES), and water-cycle observation for JAXA. By developing the GOSAT-GW satellite, Mitsubishi Electric will contribute to measures for preventing disasters attributed to global warming and climate change, and to advance scientific and technological methods that enable more accurate prediction of climate change.

NASA Awards Artemis Contract for Gateway Logistics Services

March 27, 2020 - NASA has selected SpaceX as the first U.S. commercial provider under the Gateway Logistics Services contract to deliver cargo, experiments and other supplies to the agency's Gateway in lunar orbit. The award is a significant step forward for NASA's Artemis program that will land the first woman and next man on the Moon by 2024 and build a sustainable human lunar presence. At the Moon, NASA and its partners will gain the experience necessary to mount a historic human mission to Mars. SpaceX will deliver critical pressurized and unpressurized cargo, science experiments and supplies to the Gateway, such as sample collection materials and other items the crew may need on the Gateway and during their expeditions on the lunar surface. NASA is planning multiple supply missions in which the cargo spacecraft will stay at the Gateway for six to 12 months at a time. These firm-fixed price, indefinite delivery/indefinite quantity contracts for logistics services guarantee two missions per logistics services provider with a maximum total value of \$7 billion across all contracts as additional missions are needed.

Airbus Successfully Completes In Orbit Commissioning of CHEOPS

March 26, 2020 - Airbus has received confirmation from ESA of a successful end to the In Orbit Commissioning (IOC) of CHEOPS after the IOC review. This critical phase was performed by Airbus in Spain with the support of the Instrument Team (University of Bern), Mission Operation Centre (INTA), Science Operation Centre (University of Geneva) and ESA. The IOC phase started on 7th January and over the past two and a half months Airbus has conducted the operations to verify the performance of the satellite (platform and instrument), the ground segment and the science package. During this time the main goal was to consolidate the documentation, processes and procedures for use during the operational phase. ESA recognised the great job done by the Airbus teams and stated there were no issues preventing routine operations from starting and confirmed hand-over of the mission operations from Airbus to INTA and the mission consortium. CHEOPS will be controlled by INTA and the mission consortium (University of Geneva and University of Bern). CHEOPS is the first in ESA's FAST TRACK missions programme whose main characteristics are low cost and a challenging budget. CHEOPS will characterise exoplanets orbiting nearby stars, observing known planets in the size range between Earth and Neptune and precisely measuring their radii to determine their density and understand what they are made of.

GEOTracker Space Surveillance Network Gets Even Bigger

March 24, 2020 - ArianeGroup's GEOTracker network continues to expand around the world with a

seventh observatory already installed at ArianeGroup's site of Ottobrunn in Germany, and an eighth coming soon in Australia's Northern Territory. In today's world, space surveillance is a strategic priority. ArianeGroup has unique expertise in the detection and surveillance of objects in space, with its global GEOTracker network. Using a network of optical sensors around the globe and a centralized control center, GEOTracker provides ultra-precise positioning and orbit-determination data for space objects in geostationary Earth orbit (GEO) and medium Earth orbit (MEO), in particular with a view to protecting space assets from possible collision, interference or unwelcome contact. Since its entry into service in 2017, GEOTracker has been expanding its global network of observatories on three continents. The latest addition to the network, the eighth station to date, will be located in Australia's Northern Territory at the Centre for Appropriate Technology Ltd (CfAT) site, around 10km south of Alice Springs.

Soyuz Lofts Another Batch of OneWeb Satellites

March 22, 2020 - Today's launch, Flight ST28, was the 28th Soyuz mission carried out by Arianespace and Starsem from Baikonur Cosmodrome in Kazakhstan. Performed on Saturday, March 21 at Baikonur Cosmodrome, Flight ST28 orbited 34 new OneWeb satellites – bringing the total in orbit to 74. The first 40 satellites in the OneWeb constellation were orbited by Arianespace in two missions: the first six in February 2019 from the Guiana Space Center in Kourou, French Guiana; and the next 34 in February 2020 from Baikonur Cosmodrome. Satellite operator OneWeb aims to deliver high-speed internet through a next-generation satellite constellation that will be able to provide connectivity to everyone, everywhere. OneWeb's system will be comprised of an initial 650 satellites and will provide global coverage in 2021. The satellite prime contractor is OneWeb Satellites, a joint venture between OneWeb and Airbus Defence and Space. The satellites are built in Florida, USA and Toulouse, France on dedicated assembly lines.

Space X Launches 60 Starlink Satellites

March 18, 2020 - SpaceX launched its sixth Starlink mission. Falcon 9 lifted off from Launch Complex 39A (LC-39A) at NASA's Kennedy Space Center in Florida. Falcon 9's first stage previously supported the Iridium-7 NEXT mission in July 2018, the SAOCOM 1A mission in October 2018, the Nusantara Satu mission in February 2019, and the second launch of Starlink in November 2019. Falcon 9's fairing previously supported the first launch of Starlink in May 2019. Each Starlink satellite weighs approximately 260 kg and features a compact, flat-panel design that minimizes volume, allowing for a dense launch stack to take full advantage of Falcon 9's launch capabilities. With four powerful phased array and two parabolic antennas on each satellite, an enormous amount of throughput can be placed and redirected in a short time, for an order of magnitude lower cost than traditional satellite-based internet. Starlink is targeting service in the Northern U.S. and Canada in 2020, rapidly expanding to near global coverage of the populated world by 2021.

China Develops New System to Quickly Find Fallen Rocket Debris

March 18, 2020 - China's Xichang Satellite Launch Center announced the development of a new positioning system that can greatly shorten the time searching for rocket debris. The system has proved efficient in seeking out fallen rocket pieces after the center launched the 54th BeiDou satellite into space on March 9. The satellite was sent into space by a Long March-3B carrier rocket. With the guidance of the system, the center staff just spent 25 minutes finding the rocket boosters, while in the past, it would take them several hours or even half a month to complete such a task. Unlike many countries' launch pads, which are typically located along coastlines, China's major launch sites are deep inland, which means its rockets always fly directly over densely populated areas. Therefore, after launches, rocket boosters and other pieces will fall back to the ground, threatening local communities. This year the country will continue to see intensive space launches. How to make the rocket debris recovery precise and controllable has become an urgent problem for Chinese scientists.

Intelsat Selects SpaceX to Launch Intelsat 40e Satellite

March 17, 2020 - Intelsat has selected SpaceX as its launch partner for Intelsat 40e (IS-40e). The launch is planned for 2022 on SpaceX's American-built Falcon 9 launch vehicle. Intelsat 40e is an advanced geostationary satellite that will provide Intelsat's government and enterprise customers across North and Central America with high-throughput, "coast-to-coast" services. The satellite's capabilities will support the growing number of customers that depend on Intelsat's managed services and solutions to easily integrate satellite into their overall networking and communications strategies. Intelsat announced in February that Maxar Technologies will manufacture IS-40e. This is the second launch for Intelsat and SpaceX. In 2017, SpaceX launched Intelsat 35e, a satellite currently providing high-throughput coverage for Intelsat customers in portions of North and South America, Europe and Africa.

Exolaunch to Deliver UAE Space Agency's Small Satellite into Orbit on Soyuz-2

March 17, 2020 - Berlin-based Exolaunch, the leading launch services and deployment system provider for small satellites, announced that the launch of a 3U cubesat, MeznSat, for the UAE Space Agency will be performed aboard a Soyuz-2 rocket. The purpose of the satellite is to study and monitor the greenhouse gases, specifically CO₂ and Methane, over the UAE. MeznSat is a nanosatellite for climate observation, manufactured by Khalifa University of Science and Technology (KUST) in partnership with the American University of Ras Al-Khaimah (AURAK) and funded by the UAE Space Agency. The satellite's primary payload will be a shortwave infrared (SWIR) spectrometer that makes observations in the 1000-1650 nm wavelength range to derive atmospheric greenhouse gas concentrations.

ESA and the European Commission Preorder Four More Ariane 6 Launches

March 10, 2020 - The European Space Agency (ESA) has finalized its preorder for four more launches on Ariane 6, along with an initial payment. Using Ariane 62, the light version of the new European launcher, these missions will be carried out on behalf of the European Commission to continue the deployment and operational ramp-up of the high-performance Galileo satellite navigation system. Planned to start in January 2022, these launches will orbit eight satellites from Batch 3 to support the final deployment of the Galileo constellation and the replacement of certain satellites. These four launches reserved for Ariane 62 will be confirmed after the European Commission finalizes its budget for the period 2021-2027, which covers these launches. The terms and conditions of this order have already been approved by ESA and the European Commission, and an initial payment has been made for this preorder.

Lockheed Martin Awarded Contract to Develop Prototype Protected Tactical Satellite Communications (SATCOM) Payload

March 9, 2020 - The U.S. Space Force's Space and Missile Systems Center (SMC) has awarded Lockheed Martin a \$240 million contract to develop a prototype payload for its new Protected Tactical SATCOM (PTS) system. PTS is a next-generation capability connecting warfighters with more agile and jam-resistant satellite communications (SATCOM). The complete system will deploy a constellation of dedicated geostationary satellites, commercially hosted payloads, and coalition partner satellites integrated through a ground control network to provide U.S. and coalition forces protected communications in a data hungry battlespace. SMC's acquisition begins with a rapid prototyping phase for a new mission payload hosting the Protected Tactical Waveform (PTW). The fully-processed payloads will ensure adaptive, anti-jamming communications channels are available to allied forces in a contested environment. SMC is leveraging Other Transaction Authority (OTA) contracting mechanisms rather than a traditional Federal Acquisition Regulation (FAR)-based acquisition for prototyping to provide agile development, "E.P.I.C. Speed," and an avenue for non-traditional participation.

Spaceflight Readies 28 Payloads for Inaugural Rideshare Launch on Arianespace's Vega

March 9, 2020 - Spaceflight announced it is providing mission management and rideshare integration services for four organizations on Arianespace's first dedicated rideshare mission on its Vega launch vehicle. The proof of concept rideshare mission, VV16, will launch 53 microsattellites, nanosatellites and cubesats, including 28 payloads from Spaceflight customers Satellogic, Planet, Swarm Technologies, and an undisclosed organization. Targeted for late March from the Guiana Space Center in Kourou, French Guiana, this launch represents Spaceflight's first mission aboard the Vega. Spaceflight's parent company, Spaceflight Industries recently announced it has signed an agreement to sell Spaceflight's rideshare business to Japan's Mitsui & Co., Ltd. and Yamasa Co., Ltd. Upon regulatory approval, Spaceflight will continue to operate as an independent U.S.-based company, with a 50/50 joint venture ownership stake by Mitsui & Co. and Yamasa.

SpaceX Dragon Heads to Space Station with NASA Science, Cargo

March 7, 2020 - A SpaceX Dragon cargo spacecraft is on its way to the International Space Station after launching at 11:50 p.m. EST Friday, March 6. Dragon will deliver more than 4,300 pounds of NASA cargo and science investigations, including a new science facility scheduled to be installed to the outside of the station during a spacewalk this spring. The spacecraft launched on a Falcon 9 rocket from Space Launch Complex 40 at Cape Canaveral Air Force Station in Florida and is scheduled to arrive at the orbital outpost on Monday, March 9. Dragon will join three other spacecraft currently at the station. When it arrives, NASA Flight Engineer Andrew Morgan will grapple Dragon, backed up by NASA's Jessica Meir. Dragon is scheduled to remain at the space station until April 9, when the spacecraft will return to Earth with research and cargo. This delivery, SpaceX's 20th cargo flight to the space station under NASA's Commercial Resupply Services contract, will support dozens of new and existing investigations. NASA's research and

development work aboard the space station contributes to the agency's deep space exploration plans, including future Moon and Mars missions.

Successful Launch for Airbus' Bartolomeo

March 6, 2020 - The Airbus built Bartolomeo platform has been successfully launched today from Cape Canaveral, Florida, US. Bartolomeo is now on its journey to the International Space Station (ISS) and will be installed outside of the Columbus Laboratory, the European module of the ISS built by Airbus. Bartolomeo – named after Christopher Columbus' younger brother – is funded by Airbus and will be operated with the support of the European Space Agency (ESA). The platform can host up to 12 different payload slots, providing them with a power supply and data transmission back to Earth. Not only does this provide opportunities for Earth observation, but also environmental and climate research, robotics, material sciences, astrophysics or to test new technologies in space, paving the way for their commercialisation. The platform's unique vantage point 400 kilometres above the Earth offers unobstructed views of our planet enabling the hosting of external payload in low-Earth-orbit. Launch opportunities are available on every servicing mission to the ISS which is around every 3 months. The payload accommodation allows slots for a wide range of payload mass going from 5 to 450 kg. They will be provided with optical data downlink capacity of one to two Terabytes per day.

Capella Space and Rocket Lab to Launch Mid-Inclination Satellite to Enable Improved Monitoring of Key Global Regions

March 5, 2020 - Rocket Lab has inked a deal to launch a dedicated mission for Capella Space, an aerospace and information services company providing Earth observation data on demand. Together, Capella Space and Rocket Lab will launch the first ever synthetic aperture radar (SAR) satellite that delivers commercial data into a mid-inclination orbit to optimize hotspot monitoring of key regions in the world. Launching later this year, the mission will loft the first satellite of Capella Space's Whitney constellation on an Electron launch vehicle from Rocket Lab's Launch Complex 1 on New Zealand's Māhia Peninsula. By positioning the satellite to a 45 degree inclination, Capella Space will maximize coverage over important areas such as the Middle East, Korea, Japan, South East Asia, Africa and the U.S. This launch paves the way for reliable and persistent imagery of anywhere on the globe, day or night, and in any weather conditions. Capella's space-based radar can detect sub-0.5 meter changes on the surface of the Earth, providing insights and data that can be used for security, agricultural and infrastructure monitoring, as well as disaster response and recovery.

SpaceLogistics Selected by DARPA as Commercial Partner for Robotic Servicing Mission

March 4, 2020 - SpaceLogistics LLC, a wholly owned subsidiary of Northrop Grumman Corporation has been selected by the U.S. Defense Advanced Research Projects Agency (DARPA) as its commercial partner for the agency's Robotic Servicing of Geosynchronous Satellites (RSGS) program. The groundbreaking mission will feature the first-ever commercial robotic servicing spacecraft and aims to expand the market for satellite servicing of both commercial and government client satellites with advanced robotics technology. The program objectives include enhanced capabilities such as in-orbit repair, augmentation, assembly, detailed inspection and relocation of client satellites. Under the agreement, DARPA will provide the robotics payload for the Space Logistics Mission Robotic Vehicle. This payload, developed and integrated by the U.S. Naval Research Laboratory, consists of two dexterous robotic manipulator arms, along with several tools and sensors. SpaceLogistics will provide its Mission Robotic Vehicle bus leveraging technologies developed for the industry's first- ever satellite servicing vehicle, the Mission Extension Vehicle (MEV). MEV-1, designed and built by Northrop Grumman, launched in October 2019 and successfully completed the first docking in geosynchronous orbit with an Intelsat satellite on Feb. 25. Northrop Grumman will also channel its deep expertise in spacecraft development and on-orbit servicing to lead the system level design, integration, testing, launch and mission operations over the life of the satellite.

SSC Signs Contract with Isar Aerospace for Testing of New Generation Rocket Engine

March 2, 2020 - Swedish Space Corporation (SSC) and German space tech company Isar Aerospace have signed a long-term contract for testing of a new generation of European rocket engines for minilaunchers at Esrange Space Center in Sweden. The agreement includes a rocket stand for vertical tests and the agreement can be extended to include rocket stage tests with multiple rocket engines. SSC's new engine and stage test capability plays a crucial part in supporting research and the development of rocket engines for minilaunchers in Europe. The first engine tests are planned for mid-2020 and the aim is to launch satellites with Isar Aerospace rockets based on this engine technology from 2021 onward.

EXECUTIVE MOVES

Comtech Announces Moves Strengthening its Executive Management Team

March 31, 2020 - Comtech Telecommunications Corp. ("Comtech"), a leading provider of advanced secure wireless solutions announced the promotion of Mark Toppenberg and Jeff Harig, each to Co-President of Comtech's Tempe, Arizona-based subsidiary, Comtech EF Data Corp., the promotion of Mark Schmeichel to President of its Santa Clara, California-based subsidiary, Comtech Xicom Technology, Inc. and the appointment of Michael Plourde as Comtech's Vice President Global Engineering and Programs. These changes are intended to strengthen the leadership and drive long-term revenue growth of Comtech's satellite earth station solution product lines. In connection with these changes, the Company is also announcing that John Branscum, Senior Vice President of Comtech, will be leaving the Company effective April 8, 2020.

Spacecom Appoints Dan Zajicek new CEO

March 19, 2020 - Spacecom, operator of the AMOS satellite fleet, has announced that Dan Zajicek has been appointed by the board of director's as the company's new Chief Executive Officer. His appointment officially begins on 1 April 2020. Itzik Shnaiberg, who has served as Acting CEO since 1 January 2020, will return to his Deputy CEO position at that time. Zajicek comes to Spacecom from Satcom Systems, owner of Gilat Satcom, where he served as CEO from 2012, after fulfilling senior management positions in the international satellite services industry. At Bezeq International he served as VP responsible for Regulatory Affairs, International Business Development and HR as well as VP of its Business Development unit and CFO. Zajicek also served as Senior Deputy Director General of Israel's Communications Ministry and in the National Budget Unit of Israel's Finance Ministry.

Satcom Systems Appoints Asaf Rosenheck as New CEO

March 18, 2020 - Satcom Systems announced the appointment of Asaf Rosenheck as CEO of Satcom and the subsidiary Gilat Telecom. Rosenheck has experience and knowledge in the many areas of operations of the Company, and is intimately acquainted with the Company's customers. As part of his previous positions at Satcom, Rosenheck served as VP Sales and VP Business Development, and he was responsible for handling the Company's business with its strategic customers. Prior to joining Satcom Rosenheck served as VP Information Systems at Cellcom Liberia (a cellular company owned by the Israeli LR Group) in Africa. In this position Rosenheck deepened his acquaintance with the African market as well as his knowledge in the fields of communications and satellites.

ILS Names New President and Announces New Opportunities for Customers

March 12, 2020 - ILS International Launch Services, Inc. (ILS) announces the appointment of Tiphaine Louradour as President. Tiphaine joins ILS with over two decades of Space Industry and management experience, most recently as President of Global Commercial Sales at United Launch Alliance (ULA). Prior to this role, Tiphaine held a number of positions of increasing responsibility in finance, risk management, strategy, commercial sales and marketing and also gained international business experience while serving as a consultant to international consulting firms in the US and Europe. Tiphaine is joining ILS at a very exciting time. ILS, owned by JSC Khrunichev State Research and Production Space Center, currently markets the Proton launch vehicle with the new Angara launch vehicle on the horizon. ILS recently received approval from the US State Department to promote commercial launch services on the storied Soyuz launch vehicle. These activities will contribute to the Soyuz launch service offerings by the Russian company GK Launch Services from Russian spaceports (Baikonur and Vostochny). Following an agreement between the two companies on joint cooperation in the launch service market, the objective is to offer customers access to the full range of Proton, Angara and Soyuz launch vehicles. The combined team will continue serving the customer community with the best and most flexible launch solutions.

Viasat Strengthens Management Team; Adds Three Executive Hires

March 5, 2020 - Viasat announced the expansion of its global leadership team with the addition of Jim Dodd, as president, Global Mobile Solutions; Peter Langkilde, as vice president and Head of Broadband Services for Europe, Middle East and Africa (EMEA); and Dr. Krishna Nathan, as chief information officer (CIO). With more than 30-years of aviation experience, Jim Dodd joins Viasat as president, Global Mobile Solutions. In this role, Jim will broaden Viasat's mobility opportunities, strategically aligning current and future satellite capabilities with global mobility sector needs. Areas of focus under the global mobility umbrella include: business aviation, commercial aviation, connected cars, maritime and railway transportation, to name a few. With 30-years of global mobile sector depth, Peter Langkilde joins Viasat as

vice president and Head of Broadband Services, EMEA. In this role, he will oversee Viasat's broadband services growth with respect to leading residential, business and community internet opportunities across EMEA – setting the stage for the launch of ViaSat-3 services in the upcoming years. With more than 25-years of next-generation IT expertise, Dr. Krishna Nathan joins Viasat as CIO. In this role, he will lead the Company's digital transformation and platform initiatives, using analytics, customer-experience-centric processes, data-driven decision-making, automation and AI to enable the Company to quickly scale globally while responding to changing market dynamics.

Comtech Telecommunications Corp. Appoints Lisa Lesavoy to its Board of Directors

March 5, 2020 - Comtech Telecommunications Corp. a leading provider of products, systems and services for advanced communications solutions, has announced that the Board of Directors has appointed Lisa Lesavoy as a Director. Lesavoy is the owner of Lesavoy Financial Perspectives, Inc., a New York City based financial counseling firm which she founded in September of 1990. Previously, Lesavoy served as Senior Financial Advisor for E.F. Hutton's, and subsequently Shearson Lehman Brothers', Personal Financial Planning Division, where she was a First Vice President and responsible for the Division's financial counseling services on the East Coast. Lesavoy has been a member of the New York State Bar since 1985.

Kymeta Appoints David Geiling as Vice President of Sales, Asia Pacific Region

March 3, 2020 - Kymeta announced the appointment of David Geiling as Vice President of Sales, Asia Pacific, a move that will increase the availability of Kymeta solutions across multiple markets in the region. In this role, Geiling will be responsible for all direct sales and reseller management for Asia Pacific, including India. He will also be tasked with growing strategic customer accounts and partner relationships for Asia that enhance Kymeta's core business objectives. Geiling brings a broad range of experience to his new position at Kymeta, including sales executive and business development roles with extensive experience in the satellite, connectivity, and broadcast media industries. Mr. Geiling brings a consistent track record of success in identifying, developing, and implementing deal strategy and closing business opportunities. Previously, he held the position of Senior Sales Director at Eutelsat, managing accounts in APAC, Europe and the U.S., with most of his career spent in Central Asia and East Asia.

REPORTS

WTA Report “Budgeting for Cybersecurity” Provides Key Insights for Making IT Spending Decisions

March 26, 2020 - The World Teleport Association (WTA) has released Budgeting for Cybersecurity, a new research report that shares benchmarks for IT and cybersecurity spending and a structured approach to establishing and justifying a budget. “The pressure is on teleport operators to put effective cybersecurity measures in place, whether from boards of directors, customers or government agencies,” said executive director and report author Robert Bell. “Our report offers benchmarks on IT and cybersecurity spending, what the spending goes to, and how executives can develop and defend a budget that provides the effective protection they need.”

Cumulative 10-Year Revenue Forecast for High Throughput Satellite to Reach \$85billion by 2028

March 10, 2020 - In its latest research titled, “High Throughput Satellites: Vertical Market Analysis & Forecasts,” Euroconsult projects that High Throughput Satellite (HTS) revenue will reach \$15 billion by 2028 with aggregate capacity leasing revenue over the 10 year period reaching \$85 billion by 2028. Demand will be driven by nine vertical markets for a 26 percent annual growth rate over the ten-year period covered in the report. Supply is expected to grow by 12 times between 2019 and 2024. With several non-geostationary satellite orbit (NGSO) HTS constellations going into service during this time period, HTS capacity supply is on the verge of entering a period of unprecedented near-term expansion, jumping from 2,100 Gbps at the end of 2019 to 26,500 Gbps by 2024. While this jump has been anticipated, it is now imminent as high-volume manufacturing and batch launch campaigns are underway for both SpaceX and OneWeb.

Satcom Pricing to Stabilize by 2021, with Aero Boosting Satellite Operator Dynamics

March 3, 2020 - NSR's latest report, *Satellite Capacity Pricing Index, 6th Edition (2020)* finds capacity pricing declines decelerating in 2020, with the global mean price index declining by ~13% in Q1 2020, in contrast to ~17% in Q1 2019. This decline slows further in 2020, with signs of stabilization across some regions, bands, and applications to come by 2021 in advance of large waves of both GEO and Non-GEO capacity entering the market.

UPCOMING EVENTS

NAB 2020, April 18-22, Las Vegas, Nevada, USA, www.nabshow.com

OTT Summit, June 29-30, Singapore, <https://ottsummit.asia>

Convergence India 2020, July 7-9, New Delhi, India, www.convergenceindia.org

Satellite Industry Forum, September 28, Singapore, <https://www.aviasif.com/>

ConnecTechAsia 2020, September 29 - October 1, Singapore, www.connectechasia.com

APSCC Summit @ConnecTech Asia, September 29 - October 1, Singapore, <https://apsc.or.kr/apsc-connectech-asia-2020/>

Future of Video India, October 6, Mumbai, India, https://avia.org/all_events/the-future-of-video-india-2020/

CABSAT 2020, October 26 - 28, Dubai, UAE, www.cabsat.com

CABSAT now in its 26th edition presents SATEXPO, the only platform in the MEASA region bringing senior buyers in sat-comms, tech and business solutions together for 3 days under one roof. SATEXPO represents the entire ecosystem of satellite carriers, manufacturers, service providers and integrators serving government and military.

Asia-Pacific Regional Space Agency Forum (APRSF-27), October 27 - 30, 2020, in Hanoi, Vietnam, https://www.aprsaf.org/annual_meetings/aprsaf27/meeting_details.php

Asia Video Summit 2020, November 9-11, Singapore, <https://asiavideosummit.com/>

APSCC 2020 Satellite Conference & Exhibition (APSCC 2020), November 17-19, Manila, Philippines, <https://apscsat.com/>

APSCC 2020 Youth Development Workshop, November 19, Manila, Philippines, <https://apscsat.com/workshop/>

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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.