

# APSCC Monthly e-Newsletter

## JULY 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](http://www.apsc.or.kr). To unsubscribe, send an email to [info@apsc.or.kr](mailto:info@apsc.or.kr) with a title "Unsubscribe."

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

### INSIDE APSCC

#### APSCC E-SERIES Episode 3: Video Distribution – Satellite is still relevant

The widespread adoption of Video On-Demand has resulted in reduced time spent on linear TV. Previously, satellites formed the backbone of global video distribution, but now, demand for capacity has reached a plateau. In Asia Pacific, distribution varies from country-to-country and delivery via CDNs and terrestrial technologies remains a challenge for one-to-many applications, ensuring a role for satellites now, and for years to come. Video Distribution – Satellite is still relevant, the 3rd live webinar organized as part of the APSCC E-SERIES, will start at 11:00 am SST on Thursday, July 9.

Title: **Video Distribution – Satellite is still relevant**  
Date: Thursday, July 9 (11:00 –12:10, SST)  
Moderator: Christopher Slaughter, Strategic Advisor, APSCC  
Panelists: Vincent Lim, Vice President of Sales, Asia Media, ABS  
Gerald Wong, CEO, Caton Networks

Registration is free to APSCC members, but space is limited. To register go to <https://apscsat.com>.

### SATELLITE BUSINESS

#### Comtech EF Data Receives \$1.8 Million Delivery Order to Support Critical Air Force and Army Anti-Jam Modem Program

June 30, 2020 - Comtech EF Data Corp. received a delivery order in support of a recently awarded contract for engineering services from a large prime U.S. Department of Defense (DoD) contractor. This latest delivery order is for \$1.8 million to support a critical Air Force and Army Anti-jam Modem (A3M) program under the U.S. Space Force's Space and Missile Systems Center (SMC). The \$4.7 million contract has been funded \$2.3 million to date. The A3M program will provide the Air Force and Army with a secure, wideband, anti-jam satellite communications terminal modem for tactical satellite communication operations. The jam-resistant modems will support SMC's Protected Tactical Waveform technology, an anti-jam capability operating on military satellite communication terminals through the Wideband Global Satcom constellation.

#### Kratos Completes Acquisition of Satellite Antenna Manufacturer ASC Signal from CPI

June 30, 2020 - Kratos Defense & Security Solutions has completed its acquisition of CPI ASC Signal Division (ASC) from Communications & Power Industries LLC (CPI) following the receipt of regulatory approval from all required government authorities and completion of other closing items. The acquisition broadens Kratos' space ground systems business with the addition of market-leading earth station antennas that are an important part of government strategic and tactical communications, especially for defense and intelligence operations, and are also used widely in the commercial world. ASC products also include radar antennas for air traffic control and weather applications, as well as High-Frequency (HF) and specialty antennas. Kratos' space business offers a wide variety of products and solutions across the satellite ground segment, including RF infrastructure, systems management and mission assurance products.

#### Viasat's Real-Time Earth Ground Station Now Open in Australia

June 30, 2020 - Viasat announced the official launch of its Real-Time Earth (RTE) facility in Alice Springs, Australia. Viasat partnered with the Centre for Appropriate Technology Ltd (CfAT), an Aboriginal not-for-

profit science and technology company based in Alice Springs, which built and owns the new facility through its wholly-owned commercial subsidiary CfAT Satellite Enterprises Pty Ltd, and Indigenous Business Australia (IBA), an Australian Commonwealth commercially-focused government authority, which helped finance the project and provides related commercial advice and support. Viasat's RTE network provides Ground-Station-as-a-Service (GSaaS) to the earth observation and remote sensing community. The service offers affordability and reduced latency through automation and geographic diversity on a pay-per-use basis. Viasat's RTE service will be able to support next-generation and legacy low earth orbit satellites using the S-, X-, and Ka-bands, which will enable operators to meet today's and tomorrow's data requirements.

### **Oman Operator SCT Selects SpaceBridge to Supply Multiple Spot Beams HTS, Multi Service Broadband Satellite Network**

June 30, 2020 - SpaceBridge has been selected by Satellite Communication Technologies (SCT) to supply an HTS Multiple Spot Beam (MSB) Broadband VSAT Network. The network to be supplied incorporates SpaceBridge's unique ASAT System including its turnkey WaveSwitch, Point-to-MultiPoint Satellite Broadband Platform technology. The SpaceBridge ASAT Platform, sized to support SCT growth to thousands of Remote Terminals, will deliver services enabling enterprises, mobile network operators and homeland security entities to transmit real time applications data under the Arabsat Satellite coverage in the Sultanate of Oman and its economical water. Operating multiple high throughput DVB-S2X beams in the forward channel, coupled with SpaceBridge's advanced QoS and Performance Enhancement Proxy (PEP), SCT will provide high speed and spectrally efficient bandwidth to their customers. On the returns, SCT benefits from dynamic MF-TDMA return channels delivering industry leading reaction time and bandwidth delivery based on customer demands. Additionally, WaveSwitch enables SCT to dynamically switch customers with higher bandwidth demands from MF-TDMA dynamic SCPC, providing SCT with benefits from high performance, improved spectral efficiency on the returns and increasing the overall satellite data throughput.

### **ST Engineering Donates \$1m to Enable Digital Access for Low Income Households and Seniors in Singapore**

June 29, 2020 - ST Engineering has announced that it has made a donation of \$1m to the Infocomm Media Development Authority (IMDA) Digital Access Programme (DAP), to help low-income households and seniors to gain access to digital and connectivity tools for their task. The amount comprises donations from employees and other donors raised through the Community Chest of Singapore, with a top up by the company. This collective donation is the single largest contribution to DAP to date, and is expected to enable about 4,500 individuals to have equal digital access over the next 12 months. This initiative began when Singapore announced more stringent Circuit Breaker measures and the need to help low-income households overcome the digital divide became more acute. ST Engineering rallied its management and employees to contribute towards the DAP, helping households and seniors gain access to digital and connectivity tools such as subsidised computers, devices and broadband services for their daily tasks, whether for work, home-based learning or accessing information and entertainment. ST Engineering then topped up the over 1,000 contributions to reach \$1m.

### **Thaicom and CAT Announce Satellite Business Joint Venture**

June 26, 2020 - Thaicom Public Company Limited and CAT Telecom Public Company Limited has announced a satellite business joint venture in order to strengthen Thailand's telecommunications infrastructure and to support the growth of the digital economy industry and satellite industry. The two companies are partnering to form a joint venture company called 'Nation Space and Technology Company Limited'. The joint venture has a registered capital of Baht 10 million. Thaicom holds a 75 percent stake, whereas CAT holds a 25 percent stake in the joint venture. Thaicom and CAT realize that the COVID-19 pandemic is resulting in drastic changes in people's lifestyles. Both public and private organizations are increasingly adapting to digital technology, which is leading to more and more online transactions. In this environment, the development of technology services via Low Earth Orbit (LEO) satellites will benefit everyone with access to high-speed internet services via 5G technology, IoT (Internet of Things) devices, M2M (Machine to Machine) technology, as well as drone technology and applications in areas that require high levels of accuracy, such as remote surgery. LEO satellite systems are ideal to power these applications due to their low latency.

### **Intelsat and Liquid Telecom Extend Partnership that Delivers Reliable Internet Services to Africa**

June 26, 2020 - Intelsat announced an extension of its partnership with Liquid Telecom the leading pan-

African telecoms group. The two companies have collaborated for four years to deliver Liquid Telecom's very-small-aperture terminal (VSAT) service over Intelsat's high-throughput satellite fleet, providing a robust, secure and reliable communications network to communities, schools and businesses in 20 countries across the continent. Through the partnership extension, Liquid Telecom will be able to connect more than 2,000 additional VSAT terminals across the continent. This will ensure the continuity of high-speed, reliable satellite connectivity to mobile operators, carriers, enterprise, media, content companies and retail customers across Africa, and it will also help Liquid Telecom better serve the growing demand for improved connectivity in its rural service areas.

### **Inmarsat Delivers the Complete Connected Aircraft for New Boeing 777X**

June 24, 2020 - Inmarsat and Boeing are delivering on the promise of digital aircraft transformation through innovative new 'smart pipe' technology. This new advance in communications technology provides fast and secure inflight broadband connectivity, from the cockpit to the cabin, allowing airlines to use multiple third-party applications at the same time onboard the new Boeing 777X aircraft. The brand new infrastructure has been designed to independently allocate connectivity bandwidth to multiple applications. This enables airlines to unlock important operational benefits such as predictive maintenance, route optimisation, modernised air traffic management and real-time crew communications, while also offering enhanced passenger entertainment, including high-speed internet and live television. Inmarsat's new 'smart pipe' technology will initially be available to airlines that have either ordered or plan to order the Boeing 777X. In addition, these capabilities will be available as upgrades on other aircraft models.

### **Thuraya and Telespazio Sign Partnership Agreement for Global Distribution**

June 24, 2020 - Thuraya has signed a partnership agreement with Telespazio to distribute its products and services worldwide. Telespazio customers in critical sectors such as government, maritime, energy and relief can now effectively integrate Thuraya's mobile solutions with their own platforms to enable a wide range of comms-on-the-move and comms-on-the-pause applications. Thuraya's mobile satellite network enables seamless voice, data and broadband services on land, at sea and in the air, covering over 160 countries across Europe, Africa, Asia and Australia.

### **Maxar Technologies to Acquire Vricon**

June 23, 2020 - Maxar Technologies announced its intent to exercise its call option to take full ownership of 3D data and analytics firm Vricon for approximately \$140 million, or approximately \$115 million net of estimated cash at closing. To fund the transaction, Maxar intends to issue \$150 million in aggregate principal amount of new senior secured notes. Maxar has also agreed to repurchase \$150 million in aggregate principal amount of existing notes using the proceeds of the recent sale of its MDA business. Vricon is a global leader in satellite-derived 3D data for defense and intelligence markets, with software and products that enhance 3D mapping, Earth intelligence data, military simulation and training and precision-guided munitions. The company was formed as a joint venture between Maxar and Saab in 2015 to combine patented Saab IP with Maxar commercial satellite imagery to build highly accurate, immersive 3D products at scale.

### **SES Successfully Prices EUR 400 Million 8-year Euro Bond**

June 23, 2020 - SES S.A. has announced the successful launch and pricing of a bond offering in which it has agreed to sell senior unsecured fixed rate notes due in 2028 for a total amount of EUR 400 million. The notes will bear a Coupon of 2.00% per annum and were priced at 99.445% of their nominal value. SES is rated Baa2 by Moody's (with negative outlook) and BBB- by Standard & Poor's (with stable outlook). Proceeds of the issuance will be used for general corporate purposes which includes the refinancing of existing debt. With this transaction, which was oversubscribed by 2.5 times, SES has taken advantage of the current attractive market conditions to further strengthen its liquidity profile ahead of a EUR 650 million senior debt maturity in March of next year, whereby the residual EUR 250 million will come from cash at hand. As a result of today's transaction, SES has no senior debt maturities to be refinanced until 2023.

### **C-COM Completes Integration with Comtech EF Data Heights™ Networking Platform**

June 23, 2020 - C-COM Satellite Systems Inc., the world's leading designer and manufacturer of commercial grade, auto-acquire mobile satellite antenna systems, announced that it has completed integration of the Comtech EF Data branded Heights™ Networking Platform with the Company's iNetVu® antenna controllers. The latest Comtech VSAT networking platform, which encompasses several new modems,

notably the H-Plus Remote Gateway, is now fully compatible with all C-COM Flyaway and Driveaway antenna systems. Using the Comtech EF Data H-Plus Remote Gateway and testing over the SES-3 (103W) satellite, C-COM's 98cm Ku-band flyaway and driveaway antenna systems configured with the iNetVu® 7710 controller, were able to seamlessly acquire satellite in under 2 minutes, and connect to the network. C-COM's 'Best in Class' antenna controllers offer interoperability with 14 different modem manufacturers and with more than 35 different models.

### **Schneider Electric and Marlink Announce Technical Partnership to Boost IoT Applications**

June 23, 2020 - Schneider Electric, the leader in the digital transformation of energy management and automation, announced a partnership with Marlink, a leading independent provider of satellite connectivity and ICT services. Through this partnership, both businesses seek to simplify and extend access to the Internet of Things (IoT) for customers operating equipment and systems in remote and/or challenging locations. In the current climate of digital transformation and increased competitiveness, maintenance and operational mobility in the field is crucial yet sometimes limited. Therefore, this partnership aims to ensure uptime in crucial infrastructures the world counts on. To address the growing need for remote asset monitoring, both for environmental compliance and for the energy, mining, electric and industries' offshore performance and safety, Schneider Electric has brought together its Modicon 221 logic controller and EcoStruxure platform with Marlink's connectivity solutions.

### **Intelsat Files C-band Spectrum Transition Plan with FCC to Accelerate America's 5G Buildout**

June 22, 2020 - Intelsat filed its C-band spectrum transition plan with the U.S. Federal Communications Commission (FCC). "Intelsat is filing its comprehensive transition plan after having spent more than two years proactively working with the FCC, our customers, industry stakeholders, vendors and other satellite operators to create a clear path for meeting the FCC's accelerated clearing deadlines and ensuring the U.S. maintains its leadership in 5G," said Intelsat Chief Services Officer Mike DeMarco. "With our detailed plan finalized and our supply chain engaged, Intelsat looks forward to supporting the FCC in successfully transitioning the C-band spectrum and accelerating America's path to 5G – all while safeguarding the high-quality media broadcast services on which more than 100 million American households rely." Earlier this week, Intelsat announced that it has selected U.S. manufacturers, Maxar Technologies and Northrop Grumman, to design and manufacture satellites required to transition the company's high-quality media distribution and contribution services – uninterrupted – from the 3.7 to 4.0 gigahertz (GHz) portion of the C-band to the 4.0 to 4.2 GHz portion of the band. Intelsat and other satellite operators participating in the FCC's accelerated C-band clearing plan are responsible for incurring the upfront costs associated with clearing 300 MHz of the spectrum and moving their existing services to the upper portion of the band. Intelsat estimates these upfront investments will cost the company \$1.6 to \$1.7 billion.

### **Maxar Selected to Deliver Multi-domain Analytics System for US Department of Homeland Security**

June 22, 2020 - Maxar Technologies, a trusted partner and innovator in Earth Intelligence and Space Infrastructure, has announced that it was selected by the U.S. Department of Homeland Security (DHS) to develop an analytics system for characterizing and tracking the behavior of vehicles in multiple domains at scale and in near-real-time. The contract was awarded and is administered through the U.S. Department of the Interior and is valued at \$23 million with a five-year period of performance. With thousands of vehicles moving in and around the U.S. on a daily basis, geospatial operators are challenged with sifting through massive amounts of data to characterize behavior and make important decisions. Maxar's analytics system will augment operator decision-making by delivering data insights and automating time-consuming tasks, enabling operators to spend more time on mission-critical work. A key component of Maxar's solution is the use of advanced cloud development technologies and methodologies, which will enable DHS to secure and rapidly scale the analytics system to support many geospatial operators and seamlessly connect with a variety of applications. The company is building a community of creative problem-solvers who want to apply breakthrough technologies, collaborate across disciplines and partner with visionaries for the good of humanity.

### **ThinKom Achieves New Milestones for its IFC Antennas, Demonstrates Interoperability with New LEO, MEO and GEO Satellites**

June 22, 2020 - ThinKom Solutions announced its Ku3030 aero satellite antennas have been installed on more than 1,550 commercial aircraft of 16 major airlines. The antennas have accrued over 17 million flight hours and have achieved in excess of 100,000 hours mean-time-before-failure (MTBF) while supporting industry-leading 98 percent end-to-end system availability. The Ku3030, underpinned by ThinKom's patented VICTS flat-panel phased array technology, is the core antenna subsystem employed by industry-

leader Gogo in its 2Ku in-flight connectivity (IFC) systems. ThinKom also reported the Ku3030 antennas recently completed successful OEM line-fit qualification testing by major airframe manufacturers. ThinKom's Ku- and Ka-band IFC antennas completed multiple ground and in-flight tests demonstrating seamless interoperability across low-Earth orbit (LEO), medium-Earth orbit (MEO) and high-throughput geostationary (GEO) satellite constellations. The live on-air testbeds included OneWeb LEO, Telesat LEO 1 and SES' GEO and O3b MEO satellites.

#### **RCS and SES Networks Expand Partnership with SD-WAN Service**

June 18, 2020 - RCS Communication, an ICT company in South Sudan, has adopted a Software-Defined Wide Area Network (SD-WAN) built upon SES Networks' SD-WAN service that will enable RCS to deliver an improved user experience while optimising resiliency and bandwidth usage, SES announced today. SES Networks' SD-WAN service is the first of its kind as it enables customers to optimally utilise their available WAN access connections ranging from Geostationary Earth Orbit (GEO) satellites and Medium Earth Orbit (MEO) constellation, as well as fibre and other terrestrial links. RCS has been using SES's low-latency MEO solution extensively since 2014 to provide reliable and uninterrupted Enterprise connectivity services to NGOs, Embassies and businesses of various sectors in Juba, the capital of South Sudan. With the recent availability of fibre networks in the country, RCS began seeking services that would enable them to bring resiliency and intelligence to the edge and pass end-to-end traffic securely over different available WAN links based on application-aware steering. Through SES Networks' SD-WAN service, RCS can dynamically and intelligently prioritise and route application traffic between its MEO satellite and fibre links, resulting in improved up-time. Always-on network performance monitoring and analytics provides RCS with high visibility and insights on which to base informed decisions.

#### **Gilat Announces Availability of its Flagship VSAT, Achieving Half a Gigabit of Concurrent Speed**

June 18, 2020 - Gilat Satellite Networks has announced the availability of its flagship VSAT, Capricorn PLUS, which achieves half a gigabit of concurrent speeds. The VSAT attains highest MF-TDMA channel rate of 100Mbps over a 30Msps channel enabling full satellite network resource utilization under any link conditions and service needs. Gilat's high-speed VSAT, Capricorn PLUS, is future-ready, built with support for Multi Access Edge Computing (MEC) infrastructure – enabling next generation edge services, such as video caching and IoT gateways. In addition, Capricorn PLUS was designed to serve with maximum efficiency data intensive applications such as 5G backhauling, maritime and enterprise.

#### **Viasat, MetTel Sign Agreement to Bring High-Speed Connectivity to More Businesses across the U.S.**

June 18, 2020 - Viasat Inc. announced its business satellite internet service will be offered through MetTel, a digital transformation and communications leader. The satellite internet service expands MetTel's growing portfolio of connectivity offerings and will initially be available in the contiguous U.S., with the potential to expand into Puerto Rico, Mexico and other international markets. According to Pew Research Center, nearly a quarter of rural Americans indicate not having high-speed connectivity is a major issue in their local community. This issue also affects businesses in underserved suburban and urban areas that depend on reliable, always-on connectivity and real-time communications for critical business services. As part of the agreement, MetTel will offer Viasat's high-speed, highly-reliable satellite internet service as an option to MetTel's business and government customer base, expanding MetTel's coverage options in remote and difficult-to-reach locations. Viasat's business internet service covers 96 percent of the U.S. population and currently offers a variety of unlimited and metered data plans with download speeds up to 100 Mbps in select areas. MetTel's converged network pools the connectivity of more than 70 national and local carriers across North America.

#### **BT, NSSLGlobal and Viasat Form Alliance to Deliver Innovation in UK MOD Satellite Communications Capabilities**

June 17, 2020 - Industry-leading global communications companies, BT, NSSLGlobal and Viasat UK announced an alliance to deliver critical defence satellite communications (SATCOM) services, and support modernisation of the UK's defence and space sectors. The Alliance has come together to respond to major UK MOD programmes, including bidding for the 'Service Delivery Wrap' (SDW) component of Skynet 6, a MOD SATCOM programme that is expected to be awarded in 2022. The Alliance will provide fully managed best-in-class SATCOM solutions. In addition to supporting current MOD programmes, the Alliance is strongly positioned to contribute to the developing UK agenda around defence and space technologies. The Alliance provides leadership in SATCOM, cybersecurity, service delivery, tactical networking, artificial intelligence and emerging technologies. All three companies bring exceptionally strong track records in working with the MOD and other defence and government organisations around the world. The UK MOD

launched the SDW competition on 5 November 2019 in support of the Skynet 6 programme. The SDW programme will comprise a five-year service management effort in support of Skynet 6 and replace the current Skynet 5 contract scheduled to deliver SATCOM services to the UK MOD until August 2022.

### **Atlantic Offshore Protects against Cyber Threats with Inmarsat's Fleet Secure Endpoint**

June 17, 2020 - North Sea operator Atlantic Offshore has put its levels of cyber resilience substantially ahead of approaching International Maritime Organization requirements for ship owners, after adopting Fleet Secure Endpoint from Inmarsat to protect against ongoing cyber threats. The state-of-the-art cyber security solution was installed to coincide with a Fleet Xpress bandwidth upgrade across its fleet of offshore support vessels. All vessels now use Fleet Xpress to achieve maximum upload/download speeds of 4MBps/2MBps, with the Ka-band/L-band solution delivering committed information rates of 256kbps. Fleet Secure Endpoint defends ship networks at their vulnerable 'endpoints', which can be anything from a business-critical PC to a crew laptop. The multi-layered protection solution scans the network and eliminates malicious encryption, blocks forbidden sites, shuts down malicious connections and runs anti-spyware/anti-phishing software. It only allows trusted endpoints to interact with the network, with new devices labelled rogue until verified. Malware introduced by infected USBs also prompts 'guardian portal' intervention.

### **Sateliot Plans 5G Internet of Things Constellation**

June 14, 2020 - Sateliot, the first satellite telecommunications operator that will provide global and continuous 5G connectivity to all the elements of the Internet of Things (IoT), will invest more than 100 million euros (\$113 million) through 2022 to launch its first constellation of nanosatellites. The company, led by Jaume Sanpera and other founders of the Eureka satellite telecommunications company, will deploy a constellation of up to 100 nanosatellites over the next two years that will function as low-latency telecommunications towers for mobile operators who are deploying IoT services in remote areas where terrestrial networks do not reach. The first two nanosatellites, which will be the size of a microwave oven, will provide low-latency IoT services from low Earth orbit after they are launched in late 2020. The rest of the constellation will be launched by the end of 2022 to provide global coverage to IoT operators. Sateliot's British partner, Open Cosmos, will manufacture the satellites and manage their launch and operations. Sateliot is working with various partners to demonstrate the service and sign user agreements. Those partners include a technology laboratory in Asia and an operator in the United States with which Sateliot plans to create a consortium. The European Space Agency is providing advice on the development and execution of the project.

### **Azercosmos Signed a Partnership Agreement with UAE's HorizonSat Company**

June 12, 2020 - Azercosmos has signed a partnership agreement with HorizonSat company, another leading provider of telecommunications, internet and satellite services in the United Arab Emirates. According to this agreement, HorizonSat will provide data services to its customers in the Middle East and North African regions via the Azerspace-1 satellite. With the C-band of the Azerspace-1 satellite, HorizonSat will be able to serve more customers through its teleports.

### **Spaceflight Inc. Acquisition Finalized by Mitsui & Co.**

June 12, 2020 - Spaceflight Inc. announced its acquisition by Mitsui & Co., Ltd., in partnership with Yamasa Co., Ltd., is now complete with the final review of the Committee on Foreign Investment in the United States (CFIUS). In February 2020, Spaceflight's parent company, Spaceflight Industries, announced it had signed an agreement with the Japanese companies for the sale of the launch service provider, pending the CFIUS review. The review was complete in April and the acquisition finalized today, June 12, 2020. Mitsui & Co. and Yamasa will have 50/50 joint venture ownership in Spaceflight, but the launch service provider will continue to operate as a privately held, independent U.S.-based company. The acquisition is a unique opportunity for Spaceflight to further invest and expand its commercial and government rideshare launch services while Mitsui & Co. expands its portfolio to offer space services. Since its founding in 2013, Spaceflight has launched a record-setting 271 satellites via 29 rocket launches, establishing itself as the leading rideshare service provider. The company offers comprehensive launch and integration services across a global portfolio of vehicles, including Falcon 9, PSLV, SSLV, Electron, Antares, and Vega.

### **Altitude Angel and Inmarsat to Offer Air Traffic Management for Unmanned Aerial Vehicles (UAVs)**

June 11, 2020 - Altitude Angel and Inmarsat announced a collaboration to develop and deliver advanced flight tracking and management capability for Unmanned Aerial Vehicles (UAVs), commonly known as drones. The two companies will build on Altitude Angel's GuardianUTM platform to jointly develop a 'Pop-

Up UTM' capability that can be deployed anywhere it is required to manage Beyond Visual Line of Sight (BVLOS) UAV flights, without the need for ground-based communications infrastructure. By utilising Inmarsat's sector-leading global network of satellites and leveraging its substantial experience in Air Traffic Management (ATM) communications, Altitude Angel's Pop-Up UTM can be accessed rapidly and deployed worldwide. The Pop-Up UTM will be developed initially to address the unmanned traffic management needs of blue light emergency services and first responders who need aerial surveillance rapidly with little notice, with a commercial, industry-focused product to follow soon after. Through this technology, emergency services will be able to remotely manage UAVs, increasing their range of safe operations in mixed airspace of manned and unmanned vehicles.

### **C-COM Integrates Latest UHP Modem over Galaxy Broadband Service**

June 11, 2020 - C-COM Satellite Systems Inc., the world's leading designer and manufacturer of commercial grade, auto-acquire mobile satellite antenna systems, has announced that it has successfully completed the integration of the UHP-200 modem with its iNetVu® 8000 series antenna controllers. The new modem is now fully compatible with all C-COM antenna systems using OpenAMIP interface. Working closely with its long time Canadian reseller partner, Edmonton and Mississauga based Galaxy Broadband Communications, a leader in providing enterprise grade VSAT services to remote areas across Canada and the United States, C-COM's Manpack antenna systems (iNetVu® MP-80 & MP-100) were tested by Galaxy over their new e115 Ku Beam, which provides powerful coverage over northern North America and all three oceans. The C-COM Manpacks auto-acquired the satellite in under 60 seconds and delivered speeds equal to a fixed 1.2M system.

### **Viasat Helps Business Aviation Clients Avoid Unplanned Maintenance Costs and Downtime through Honeywell's Maintenance Service Plan**

June 10, 2020 - Viasat Inc. and Honeywell announced a strategic partnership adding Viasat's VR-12T shipset to Honeywell's Maintenance Service Plan (MSP). The new partnership will further enhance Viasat's IFC offering by giving Viasat Ku-Advanced customers the option to add their Ku system to their MSP contract, thus delivering peace of mind regarding future costs to repair Ku components. Today, Viasat offers Ku-Advanced service packages with speeds up to 10 Mbps, rollover of unused data allowances, regional and hourly service plans and the ability to stream audio and video content. The service is available over the world's most heavily traveled routes – even over water. Available during all phases of flight, Viasat's network of high-speed, cost-effective satellites delivers quality internet to passengers and crew. Honeywell's MSP is a well-established maintenance protection plan that offers full coverage options for avionics across a wide range of platforms and operations. The flexible plan will remove financial uncertainty by helping aircraft owners avoid unplanned maintenance costs and downtime.

### **Vertical M2M and Astrocast Partner to Bring Low Cost & Two Ways Communication IoT Solutions to Industries through Nanosatellites**

June 9, 2020 - Astrocast and VERTICAL M2M announced a partnership to enhance delivery of IoT solutions for the Oil & Gas, Smart Farming and Transportation and logistics industries. Together the companies will enable customers with IoT devices in remote locations, without connectivity, to receive critical data and updates and send commands to these assets from anywhere in the world. While the majority of the world is without connectivity, certain industries require a secure and reliable way to communicate with their assets at all times. Monitoring these assets is key to the success of their business. Astrocast and Vertical M2M plan to focus on highly resilient solutions for three key industries where traditional terrestrial connectivity may be out-of-reach. The Astrocast secure, bi-directional IoT Nanosatellite Network and CommonSense IoT Platform®, a versatile, feature-rich industrial platform that makes it simple to go from sensors to tailor-made applications, will soon showcase joint IoT applications that fulfill the requirements of key challenges for remote asset monitoring and management.

### **Hughes Demonstrates Live, High Definition Video Transmission over Satellite from an In-flight Black Hawk Helicopter**

June 9, 2020 - Hughes Network Systems announced the successful in-flight demonstration of Hughes HeloSat satellite communications (SATCOM) from a Black Hawk helicopter. The HeloSat solution – including a Hughes HM series modem with proprietary through-the-rotor waveform, fuselage-mounted antenna and network management – transmitted consistent, real-time, full-motion video to a live global audience from the Black Hawk as it surveilled the Tennessee landscape on May 21. With the low Size, Weight and Power (SWAP) necessary for in-flight applications, HeloSat has been tested on more than a dozen different types of rotary-wing aircraft. The wideband SATCOM solution supports mission-critical

transmissions ranging from basic voice and data to bandwidth-intensive, high definition camera and electro-optical/infrared (EO/IR) feeds. Several partners contributed to the success of the demonstration, including GetSat, DataPath, Applied Concept Group, Intelsat and XP Services.

#### **Hanwha Systems Acquired the Business and Assets of Phasor Solutions**

June 8, 2020 - Hanwha Systems recently closed a deal to acquire the business and assets from an overseas satellite communication antenna developer in an effort to build its future growth engine and advance into the global market. HSC released its acquisition of the business and assets of Phasor Solutions, Ltd., a U.K. tech venture for satellite communication antenna technology, which was made as of June 5th, 2020. Phasor Solutions is a UK based company founded in 2005 to develop satellite communication antenna technology. Phasor Solutions has been the leading developer of broadband ESA (electronically steerable antenna), enabling high speed communication in-flight, at sea or land. Its R&D efforts have been focused on the design and development of semiconductor-based next generation satellite antennas. Phasor Solutions is providing planar antennas, which boast of strong performances, all made possible by applying the most advanced technologies in the world. HSC is Korea's leading technology company securing many high tech communications and radar technologies, and it is planning to enter into the satellite communication antenna business, where HSC's existing communication and radar technologies can be fully utilized, and securing proprietary technology for Low Earth Orbit satellite antenna, thereby strengthening HSC's aerospace system capabilities.

#### **Yahsat's Government Division Deploys AI-powered DataMiner Platform for Enhanced Network Management Experience**

June 8, 2020 - Skyline Communications, the leading global supplier of AI-powered, end-to-end, multi-vendor network management and OSS software solutions for the broadband and media industry, announced that Yahsat Government Solutions (YGS), the government arm of the UAE-based satellite services operator, Al Yah Satellite Communications Company, has deployed its state-of-the-art DataMiner platform to manage and control some of their networks. With a unique space and ground infrastructure, Yahsat is continuously innovating its service offerings and constantly transitioning towards new technologies. Its first-hand understanding of specific market requirements on local, regional and global scales has enabled Yahsat to develop and launch satellite solutions for the government and the commercial sectors across the Middle East, Europe, Africa, South America, Asia and Australasia. YGS has selected DataMiner to manage and streamline operations over a few of its networks with remote terminals deployed worldwide. The multi-vendor NMS/OSS platform is designed to complement the wealth of services offered by Yahsat.

#### **CPI Completes Acquisition of Satellite Antenna Systems Business of General Dynamics**

June 5, 2020 - Communications & Power Industries (CPI) has successfully completed the purchase of SATCOM Technologies, the antenna systems business of General Dynamics Mission Systems, a business unit of General Dynamics. The transaction was funded using a new committed debt financing. The newly acquired business, which consists of approximately 1,000 employees, as well as facilities in the United States, Europe and India, will be called CPI Satcom & Antenna Technologies Inc. It will be owned and operated as a subsidiary of CPI, and will work closely with CPI's existing antenna systems businesses, CPI Malibu Division and Orbital Systems LLC, to offer customers a broad and deep portfolio of satellite communications (satcom) antenna systems and related products for use in defense, communications and scientific applications. The organization's executive management team will remain in place and report to Andrew Ivers, CPI's chief operating officer.

#### **Astroscale U.S. Enters the GEO Satellite Life Extension Market**

June 3, 2020 - Astroscale U.S. announced it has entered into a definitive agreement to acquire the intellectual property and other assets and to hire certain members of the staff of Effective Space Solutions R&D Ltd. (ESS), an Israeli satellite life-extension and servicing company. These moves make Astroscale the only company solely dedicated to on-orbit services across low-earth (LEO) and geostationary (GEO) orbits and bring the company closer to realizing its vision of orbital sustainability for future generations. The closing of the transaction is contingent upon receipt of certain regulatory approvals and other customary closing conditions. Astroscale U.S. has created a new subsidiary, Astroscale Israel Ltd., which upon closing of the transaction will be staffed by former ESS employees and headquartered in Tel Aviv. Astroscale U.S. will focus on meeting clients' satellite servicing needs, including those of the U.S. government. Astroscale Israel will serve as the company's satellite servicing research and payload development group for life extension of GEO satellites, which provide critical communications, navigation and national security

services.

### **Thuraya and Cygnus Telecom Provide Satellite Connectivity to Dubai Corp. for Ambulance Services**

June 3, 2020 - Thuraya, the mobile satellite services subsidiary of the UAE's Al Yah Satellite Communications Company (Yahsat) has announced that it is providing always-on satellite connectivity to Dubai Corporation for Ambulance Services through its partner, Cygnus Telecom. As the UAE steps up its efforts to contain the COVID-19 pandemic, Dubai Corporation for Ambulance Services is playing a critical role in the implementation of health measures introduced to protect the country's residents. The UAE has deployed the latest technologies to help its health responders eradicate the threat of coronavirus within its borders. Following the launch of Mobile Laboratory Units (MLUs) by Dubai Corporation for Ambulance Services to provide free home-based testing for the elderly and 'people of determination', Cygnus Telecom, the Master Distributor of Thuraya's voice solutions has equipped 12 ambulances with the X5-Touch satellite phones so that paramedics remain connected while on duty in the remote areas of Dubai such as Hatta, or on marine ambulances at sea.

### **MEASAT Enhances its VSAT Service Management with DataMiner**

June 2, 2020 - Skyline Communications has announced that MEASAT Satellite Systems (MEASAT), a Malaysian-based satellite operator, has recently deployed the award-winning DataMiner system. And that means another major project, considering MEASAT is a premium supplier of communication and video services to leading broadcasters, Direct-To-Home (DTH) platforms and telecom operators. MEASAT provides their diverse customer base with top-of-the-line-quality services and highly customized VSAT satellite solutions. In delivering these services, MEASAT continuously improves and further optimizes their operational process.

### **Inmarsat Launches Tailings Insight**

June 2, 2020 - Inmarsat has launched Tailings Insight, a new Internet of Things (IoT) solution for monitoring mining tailings storage facilities (TSFs), which builds on and upgrades our award-winning Tailings Dam Monitoring Solution. Available in two new propositions: Tailings Insight – Cloud and Tailings Insight – Plus, the flexible solutions are designed to respond to the differing needs of miners and reflect our commitment to building more transparent, safer management of TSFs globally. Our award-winning Tailings Dam Monitoring Solution was launched in March 2019 after several years of development with industry partners. As a fully managed service, the solution worked by collecting data from a range of industry-established sensors via Long Range Wide Area Network (LoRaWAN) edge connectivity, before transferring that data across our L-band network to a dashboard. This ensured mining companies were able to see the status of key metrics in one place and in real-time, facilitating more responsive decision-making and safer mining operations.

### **Cobham Advanced Electronic Solutions Announces Sale of Cobham RAD**

June 2, 2020 - Cobham Advanced Electronic Solutions (CAES) today announced the sale of its Cobham RAD radiation testing business in Colorado Springs, CO to Radiation Test Solutions (RTS), a specialist in the design, analysis, and testing of semiconductor devices and materials for satellite, aircraft, and ground applications. Cobham RAD is a premier provider of military standard (MIL-STD) radiation effects test services, heavy ion single event effects (SEE) testing, device preparation services prior to test, device screening and element evaluation, and quick turn prototype integrated circuit (IC) assembly.

### **Comtech Awarded \$1.6 Million in Orders from U.S. Army for Mobile Satellite Equipment**

June 1, 2020 - Comtech's Government Solutions segment, was awarded orders consisting of \$1.6 million of additional funding on the previously announced three-year \$124.2 million contract to provide ongoing sustainment services for the AN/TSC-198A SNAP (Secret Internet Protocol Router ("SIPR") and Non-classified Internet Protocol Router ("NIPR") Access Point), and baseband equipment. SNAP terminals provide quick and mobile satellite communications capabilities to personnel in the field. The contract has been funded \$88.6 million to date. The Mission-Critical Technologies group is focused on ensuring its customers are able to successfully carry out their mission, whether that be communicating in an austere environment on land or at sea, launching or tracking a satellite, or protecting the cyber security posture of their network.

### **VIVACOM Selects ST Engineering iDirect to Expand Broadcast Service Offerings**

June 23, 2020 - ST Engineering iDirect has further strengthened its long-standing relationship with leading telecom provider VIVACOM with a new agreement to supply MCX7000 modulators to facilitate additional broadcast offerings in Eastern Europe and Africa. VIVACOM, the largest telecommunications provider in Bulgaria, will use the MCX7000, a dense DVB-S2X multi-carrier satellite gateway, to launch new video services in Africa, in partnership with a global satellite operator. The modulators will also provide enhanced services for an existing Direct-to-Home (DTH) operator across Eastern Europe. The MCX7000 provides exceptional high link availability through redundancy support on its input and output interfaces, as well as advanced redundancy switching techniques, such as seamless protection switching (as per SMPTE 2022-7). The modulator offers a host of features, including efficient distribution to end users and Pay TV operators' headends, or for use in back-up or dense DTH platforms, generating significant business savings. The modulators can be used for broadcast contribution applications on standard wide beam and High Throughput Satellite (HTS) spotbeam transponders, and features ST Engineering iDirect's Clean Channel Technology and its linear and non-linear pre-distortion technology Equalink.

### **VITEC Launches Secure Gateway for Anytime, Anywhere IP Contribution and Distribution**

June 19, 2020 - VITEC, a worldwide leader in advanced video encoding and streaming solutions, has announced its new MGW ChannelLink IP distribution gateway. Designed for broadcast, corporate, and government, the appliance acts as a central hub where IP channels from the field can be received and reliably retransmitted live over any IP network. It can receive a large number of input streams and translate them into a multicast or unicast MPEG Transport Stream over UDP (UDP TS) or an SRT-protected stream. VITEC's MGW ChannelLink is ideal for stream management, routing, rebroadcasting, or IPTV stream reflection over WAN or the internet. For broadcasters, it simplifies content delivery of live channels from news agencies as well as from sports or entertainment venues. Designed to meet stringent security criteria, it is also suited for secure government and military full-motion video applications.

### **ATEME Joins Forces with SES to Trial First-ever Live over-the-air UHD Broadcast using VVC**

June 9, 2020 - ATEME, the leader in video delivery solutions for Broadcast, Cable TV, DTH, IPTV and OTT, has announced that it has partnered with SES, VideoLabs and IETR for the first end-to-end UHD satellite broadcast transmission using the new Versatile Video Coding (VVC) standard. The test transmission has been launched on SES' 28.2° East orbital position carrying a UHD (4K) video stream using the VVC standard. In this trial, the UHD TV source is encoded with VVC and encapsulated in MPEG-TS using ATEME's TITAN Live video processing platform. The streams are modulated using DVB-S2 and broadcast by SES on an Astra 2E transponder, covering the whole of Europe. On the reception side, the signal, demodulated by a DVB to IP gateway, is forwarded via IP to the VLC player that displays the video using the real-time OpenVVC decoder developed by IETR. VVC is the latest video coding technology, developed by the Joint Video Experts Team (JVET), formed by experts from ISO/IEC MPEG and ITU-T VCEG. VVC improves on the High Efficiency Video Coding (HEVC) standard's compression efficiency by 50% and addresses all video formats (VR-360°, 3D, 4K, 8K, HDR). Its versatility allows the standard to cover a wide range of applications, from broadcast to OTT delivery.

### **TV TEM Selects EUTELSAT 65 West A to Assure Continuity of Content Distribution in Brazil**

June 8, 2020 - TV TEM, an affiliate of TV Globo, has signed a multi-year contract with Eutelsat Communications for capacity on its EUTELSAT 65 West A satellite to distribute its programming within its concession region in the São Paulo state. The partnership has enabled TV TEM to seamlessly migrate its feeds from traditional C-Band (3.7 GHz to 4.2 GHz) to Planned C-Band (4.5 GHz to 4.8 GHz) on the EUTELSAT 65 West A satellite, allowing for the clearing of the traditional C-band frequencies for 5G deployment in Brazil. TV TEM has the widest coverage area in the State of São Paulo with 318 municipalities within a region of 8.3 million inhabitants, around 49% of the population of the upstate of São Paulo State. The operation took place under Eutelsat's 'Planned C-Band' solution, developed to offer Brazilian broadcasters a simple procedure to adapt or replace equipment and re-point antennas to the orbital 65°W position, with some 300 sites completing the migration in less than 45 days.

### **Azercosmos Signed a Partnership Agreement with Africa's Space Engineering Company**

June 3, 2020 - Azercosmos has signed a partnership agreement with Space Engineering, which provides telecommunication and Internet services in the African region. According to this agreement, Mwangaza TV

and Radio will be broadcast in the Republic of Kenya with the use of the Space Engineering provider via Azerspace-1 satellite. With an audience of around 50 million viewers and listeners, Mwangaza TV airs daily news and socio-economic programs in the English language. Within the framework of the agreement, Space Engineering also offers data services to its customers in the East African region via the Azerspace-1 satellite.

## LAUNCH / SPACE

### **HKATG and CGWIC Signed a Strategic Partnership Cooperation Agreement**

June 30, 2020 - As the first commercial organization member of the International Astronautical Federation (IAF) in Hong Kong, the Hong Kong Aerospace Technology Group, Ltd. (HKATG) is committed to launching the "Golden Bauhinia" low-orbit satellite constellation as the industry core, focusing on the layout of regional space satellite big data services, building space industry infrastructure, serving regional aerospace commercialization needs, promoting marketization of space technology, and making up for regional commercial gap in the space industry of the Greater Bay Area. Recently, based on the principle of equality and mutual benefit, HKATG has signed a strategic partnership cooperation agreement with China Great Wall Industry Corporation (CGWIC). CGWIC is the only commercial organization authorized by the Chinese government to operate commercial launches, provide satellites and carry out international space technology cooperation, while providing professional personnel training and other aerospace system integration services as well as carrying out international operations and professional services for aerospace technology application products. The cooperation includes joint development of the Golden Bauhinia constellation system design, satellite design, research and development, testing, launch and in-orbit delivery. HKATG will purchase the Golden Bauhinia series of low-orbit satellite systems, supporting ground facilities and related services from CGWIC. In addition, the two sides will conduct in-depth cooperation in commercial deep space exploration, data application services and product promotion, space talent training and capacity-building, etc.

### **Exolaunch and NanoAvionics Sign Two Launch Agreements for SpaceX's Rideshare Missions**

June 30, 2020 - Exolaunch has signed launch agreements with NanoAvionics, a nano-satellite bus manufacturer and mission integrator, to launch two 6U nano-satellites aboard SpaceX's Falcon 9 rideshare missions. Under the contract, Exolaunch will provide launch, integration and deployment services to the NanoAvionics-built satellites. The first contracted spacecraft will be launched to a sun-synchronous orbit on the Falcon 9 smallsat-dedicated rideshare mission targeted for launch in December 2020. Another spacecraft is planned for launch in 2021. To date, NanoAvionics has successfully completed over 75 satellite missions and commercial projects. Its flagship M6P preconfigured nano-satellite bus uses a modular software approach and flexible architecture, and is designed to serve commercial space markets. Its versatility allows NanoAvionics to provide a wide range of capabilities for its customers' payloads.

### **Virgin Galactic's SpaceShipTwo Completes Second Flight from Spaceport America**

June 25, 2020 - Virgin Galactic announced the successful completion of the second SpaceShipTwo test flight from Spaceport America. This flight follows the completion of the first test flight from the Company's commercial headquarters in New Mexico on May 1, 2020, and marks another important milestone as the team progresses toward the launch of Virgin Galactic's commercial service. On SpaceShipTwo Unity's flight deck were Mark 'Forger' Stucky and Michael 'Sooch' Masucci. Both pilots are commercial astronauts, having each previously flown Unity into space on different flights. Piloting the Company's carrier aircraft, VMS Eve, were Nicola Pecile and CJ Sturckow. This glide flight, flown at higher speeds, allowed the team to continue to evaluate systems and vehicle performance in advance of future rocket-powered space flights from the Company's new operating base in New Mexico. Flying VSS Unity in glide configuration at higher speeds enables certain vehicle systems to operate close to the environment seen during phases of rocket boost on a spaceflight. The spaceship achieved a glide speed of Mach 0.85 after being released from the mothership VMS Eve at an altitude of 51,000 ft. Unity completed multiple test-points before touching back down smoothly for a runway landing at Spaceport America.

### **Airbus and ESA Sign Agreement to Continue ISS Operations**

June 25, 2020 - The European Space Agency (ESA) has signed an annual renewal contract with Airbus on continuing the operation and use of European components on the International Space Station (ISS). The contract is worth around €16 million. For astronauts conducting research on the ISS, it is essential that all systems function reliably. An international team led by ESA is responsible for smooth operation of the life-support systems, power supply, flight control systems, laboratory equipment and experimental payloads in

the European Columbus module. The agreement between ESA and Airbus is valid until the end of 2020 and includes the following work packages: Support during operations, e.g. preparing and conducting experiments, as well as providing engineering support; Preparing ISS missions, including the integration of ISS payloads; Maintaining, repairing and developing systems; Maintaining and developing software.

#### **Exotrail Signs a Contract with the French Space Agency**

June 25, 2020 - Exotrail and CNES have signed a development contract under which we will kick-start the development of our on-orbit transportation vehicle (the Space Van™). Exotrail has been selected as a Grand Winner of the CNES Launchers R&D Challenge. In this first-of-its-kind event, CNES attributed 750k€ worth of contract to 10 companies among 84 contestants. The Space Van™ is a vehicle equipped with propulsion that can host nanosatellites or microsatellites, and deliver them to their operational final orbit from the launch orbit. This allows very small satellites that cannot perform advanced post-launch maneuvering with on-board propulsion to reduce their launch costs, by selecting a larger rocket, without compromising on precise deployment. Exotrail has been granted with the highest sum at 100k€. The jury was headed by Carine Leveau, deputy director of the Launcher Department of CNES, and composed by several members including the Head of Launchers from CNES, ArianeGroup CTO, and Head of Future Launchers Programs of ESA. Under this contract, Exotrail will perform a detailed technical and commercial analysis of our Space Van™. Exotrail will work closely with CNES and the industry in this analysis to further refine design and requirements.

#### **RSC Energia and Space Adventures Sign Contract to Launch Space Tourists**

June 25, 2020 - RSC Energia and Space Adventures (USA) have signed a contract to launch a short mission in 2023 with two spaceflight participants aboard a Soyuz MS spacecraft to the Russian segment of the International Space Station (ISS). During the mission, one of the spaceflight participants is expected to go on a spacewalk from the ISS Russian segment together with a professional Russian cosmonaut. Through 2001 to 2009, RSC Energia and Roscosmos launched eight short commercial missions to the ISS Russian segment aboard Soyuz spacecraft under contracts with Space Adventures Inc.

#### **Iridium Selects Relativity Space as On-Demand Single Satellite Launch Partner**

June 24, 2020 - Relativity Space announced that Iridium Communications Inc. has signed a launch contract to deliver satellites to orbit. The contract includes flexible timing for up to six dedicated launches to deploy Iridium's ground spare satellites to Low Earth Orbit (LEO). The launches will take place on an as-needed basis, determined by Iridium and utilizing Relativity's Terran 1, the world's first 3D printed launch vehicle. Launches are planned for no earlier than 2023. The second-generation Iridium constellation was completed in January 2019 and consists of 66 operational satellites and 9 in-orbit spares. An additional six satellites were manufactured as ground spares and remain in storage. Should the need arise to launch a ground spare, Relativity's Terran 1 offers a cost-effective, efficient response time option for Iridium to quickly deploy a satellite to one of its six orbital planes. Relativity's disruptive large-scale robotic 3D printing technology enables launches within months, instead of years.

#### **Thales Alenia Space to Provide Two Key Pressurized Elements for Axiom Commercial Space Station**

June 24, 2020 - Thales Alenia Space has announced the signature of an ATP (Authorization To Proceed) with Axiom Space of Houston, Texas to initiate the development of two key pressurized elements dedicated to the world's first commercial space station. In January, NASA selected Axiom's proposal to attach its space station modules to the International Space Station (ISS) starting from the second half of 2024, ultimately creating a new 'Axiom Segment' which will expand the usable and habitable volume of the ISS. When the ISS reaches its retirement date, the Axiom complex will detach and operate as a free-flying commercial space station. The Axiom Segment will be attached to the ISS Node 2 built by Thales Alenia Space. Axiom is offering professional and private astronaut flights to the ISS at a rate of up to two per year, with the first set to launch in October 2021, while it develops the new station elements.

#### **Relativity Space Expands Footprint via Launch Site at Vandenberg Air Force Base**

June 24, 2020 - Relativity Space has extended its launch capabilities via a Right of Entry Agreement with the United States Air Force, 30th Space Wing for development of rocket launch facilities at Vandenberg Air Force Base. The Right of Entry (RoE) allows Relativity and the 30th Space Wing to assess the viability of conducting launch operations at a location currently comprised of Building 330 and adjacent land area. Relativity's launch capabilities, which will now span both coasts of the United States, offer customers a complete range of orbital inclinations, including polar and Sun Synchronous orbits (SSO), adding to the LEO, MEO, GEO, and low inclination orbits possible at Cape Canaveral LC-16. These expanded capabilities,

along with the company's autonomous production via metal 3D printing, help drive Relativity's continued momentum.

### **China Successfully Launches Last BeiDou Navigation System Satellite**

June 23, 2020 - China launched the last satellite of the BeiDou Navigation Satellite System (BDS) on June 23, marking the completion of the deployment of its own global navigation system. The satellite, the 55th in the family of BeiDou, was launched at 9:43 a.m. (Beijing Time) and sent into the preset orbit by a Long March-3B carrier rocket from the Xichang Satellite Launch Center in southwest China's Sichuan Province. The satellite, designated to enter the geostationary earth orbit (GEO), was the last one of the BDS-3 system, which started to offer countries and regions along the Belt and Road as well as the world basic navigation service in December 2018. The BDS-3 system consists of a total of 30 satellites, including 24 MEO satellites, three IGSO satellites and three GEO satellites. The three GEO satellites, including the newly launched one, can help significantly enhance the overall technical indicators of the BDS-3 system, according to the satellite developer China Academy of Space Technology (CAST).

### **Virgin Galactic Signs Space Act Agreement with NASA for Private Orbital Spaceflight to the International Space Station (ISS)**

June 22, 2020 -Virgin Galactic announced the signing of a Space Act Agreement with NASA's Johnson Space Center to encourage commercial participation in orbital human spaceflight to the International Space Station (ISS) while enabling the development of a robust economy in Low Earth Orbit. Under the agreement, Virgin Galactic will develop a new private orbital astronaut readiness program. This program will include identifying candidates interested in purchasing private astronaut missions to the ISS, the procurement of transportation to the ISS, on-orbit resources, and ground resources. Supporting and coordinating the use of ISS resources will be an important point of integration required for each private astronaut mission. The next generation of space traveler is interested in a variety of space experiences. Building on its commercial spaceflight training experience, Virgin Galactic believes it can provide an unparalleled, personalized customer experience for orbital space travel.

### **NanoAvionics to Build the First Two Satellite Buses for Omnispace Constellation**

June 18, 2020 - Mission integrator NanoAvionics was contracted by Thales Alenia Space to build the initial two satellite buses for Omnispace's satellite-based Internet of Things (IoT) infrastructure. NanoAvionics' two satellite buses will host the payload which is being developed by prime contractor Thales Alenia Space, in partnership with Syrlinks. The flight-proven performance, lower cost NanoAvionics' M12P satellite buses are optimised for IoT and machine-to-machine (M2M) communications. Omnispace is reinventing mobile communications by delivering the world's first global hybrid 5G non-terrestrial network based on 3GPP standards. These initial satellites, for operation in non-geostationary orbit (NGSO), will support the development and implementation of Omnispace's global hybrid network. In addition to the satellite buses, NanoAvionics will provide launch support and in-orbit operations. The launch of these first two satellites of the Omnispace constellation is scheduled for 2021. The contract with Thales Alenia Space follows a recent co-operation agreement between NanoAvionics and Thales Alenia Space France. Both companies agreed to work together delivering a 'high technology space asset' as well as preparing and submitting technical solutions for nanosatellites.

### **China Successfully Launches New Ocean Observation Satellite**

June 18, 2020 - China successfully sent an ocean observation satellite into orbit from the Taiyuan Satellite Launch Center in north China's Shanxi Province. A Long March-2C rocket, carrying the satellite HY-1D, lifted off at 2:31 a.m. (Beijing Time). The satellite was developed by the DFH Satellite Co. Ltd. under the China Academy of Space Technology, which will form China's first satellite constellation for marine civil service together with HY-1C, which was launched in September 2018, and double the current ocean observation data. The satellite constellation is expected to improve China's capabilities in observing ocean color, coastal resources and ecological environment, and ramp up support for meteorology, agriculture, water conservation and transportation. The data will be used for resource and environmental surveys, and to facilitate marine disaster prevention and mitigation, sustainable utilization of marine resources, early warning for marine ecology, and environmental protection. The carrier rocket was produced by the China Academy of Launch Vehicle Technology, and this launch was the 334th by the Long March rocket series.

### **Spaceflight Inc. Signs Multi-launch Agreement with SpaceX for Rideshare Services**

June 17, 2020 - Spaceflight Inc. announced it inked an agreement with SpaceX to secure rideshare capacity on multiple launches. This agreement between the two companies secures Spaceflight capacity to launch

manifest payloads on several SpaceX launches through the end of 2021, providing launch schedule assurance to smallsat customers needing frequent, reliable, and cost-effective launches to Sun-synchronous orbit. The agreement builds on a long-standing relationship between the two companies. Spaceflight and SpaceX have partnered for several industry firsts, including SSO-A, the first dedicated rideshare mission with 64 smallsats aboard a Falcon 9 in December 2018. Additionally, Spaceflight and SpaceX teamed up on the first-ever rideshare mission to Geosynchronous Transfer Orbit carrying a commercial lunar lander in February 2019. Spaceflight also announced it will launch two rideshare payloads aboard SpaceX's tenth Starlink mission, marking the first SpaceX Starlink mission that will be accompanied by Spaceflight rideshare payloads.

### **SES Selects Two U.S. Companies to Build Four New Satellites as Part of Accelerated C-Band Clearing Plan**

June 16, 2020 - SES has selected two U.S. satellite manufacturers, Northrop Grumman and the Boeing Company, to deliver four new satellites as part of the company's accelerated C-band clearing plan to meet the Federal Communications Commission's objectives to roll-out 5G services. Northrop Grumman will deliver two flight-proven GeoStar-3 satellites, each equipped with a high-quality C-band payload to deliver the superior customer experience that end users are accustomed to. The two satellites – SES-18 and SES-19 – will be designed, assembled and tested in Dulles, Virginia. The Boeing Company will deliver a pair of highly efficient all-electric 702SP satellites. The two satellites – SES-20 and SES-21 – will be manufactured and assembled in Los Angeles, California. These four C-band only new satellites will enable SES to clear 280 MHz of mid-band spectrum for 5G use while seamlessly migrating SES's existing C-band customers. Each satellite will have 10 primary transponders of 36 MHz plus back-up tubes so they can enable the broadcast delivery of digital television to more than 120 million TV homes as well as provide critical data services. The satellites, when launched in Q3 2022, will be positioned at 103 degrees West, 131 degrees West and 135 degrees West orbital slots. The cost of manufacturing these four satellites is part of the USD 1.6 billion investment envelope that SES has announced in May. SES is committed to investing in America by procuring services and equipment needed for the C-band transition from large and small businesses across the U.S., and these significant partnerships with Northrop Grumman and the Boeing Company are cornerstones of that commitment.

### **Momentus Expands into Eastern Europe and the Middle East with New EnduroSat Contracts**

June 16, 2020 - Momentus announced two contracts with EnduroSat, the European designer of spacecraft for business applications and space exploration missions, expanding Momentus' service offering into Eastern Europe and the Middle East. The 6U and 1U CubeSats missions will launch in February 2021 on the second Vigoride demo mission onboard a SpaceX Falcon 9 rocket. The Shared Platform for Applied Research and Technology Affirmation (SPARTAN) is a 6U CubeSat that will carry a total of seven technology and commercial payloads on a single bus. This agreement marks the pilot new service mission for EnduroSat. By simplifying satellite technology, making it accessible and enabling shared missions in Low Earth orbit, the company aims to empower SMEs, universities and individuals to become active players in exploration and commercialization of space. QMR-KWT is a 1U CubeSat intended to be Kuwait's first nanosatellite. The mission is funded by the Kuwaiti company Orbital Space in partnership with EnduroSat. The educational mission will allow students from around the world to learn more about satellite communications by writing software code to be uploaded and executed on one of the satellite's onboard computers in an out-of-this-world opportunity for students to Code in Space. This service agreement marks the first Middle East customer (indirectly) for Momentus.

### **Spaceflight Coordinates Rideshare Launch of Canon Electronics' Second Earth Observation Satellite**

June 16, 2020 - Spaceflight Inc. announced it is managing the launch of Canon Electronics' CE-SAT-IB imaging satellite on Rocket Lab's Electron. The mission will lift off from Rocket Lab's Launch Complex 1 at the southern tip of Mahia Peninsula, on the east coast of New Zealand's North Island. The launch window opens on July 4 NZT/July 3 UTC. CE-SAT-IB is a 67 kilogram microsatellite which can resolve 90 centimeter objects on the ground from space. Additionally, Spaceflight is coordinating the launch of another Canon satellite, CE-SAT-IIB, which is slated to lift off after the CE-SAT-IB mission later in 2020, also aboard an Electron. It will carry three cameras with different resolutions and sensitivities. This mission, called Pics Or It Didn't Happen by Rocket Lab, represents Spaceflight's fourth launch with Rocket Lab in the past twelve months, and follows the successful launches of 10 spacecraft on earlier missions "Make it Rain" (June 2019), "Look Ma No Hands" (August 2019), and "Running Out of Fingers" (November 2019). While this mission was scheduled to launch earlier this year, it was delayed due to the COVID-19 global pandemic. Spaceflight has continued to work closely with Canon Electronics, Rocket Lab, and government officials to

launch as expeditiously and safely as the conditions allow. Like the previous missions, Spaceflight managed the launch capacity procurement, integration and mission management services for the rideshare spacecraft.

#### **Maxar to Build Four 1300-class Geostationary Communications Satellites for Intelsat**

June 15, 2020 - Maxar Technologies announced it will build four geostationary communications satellites for satellite operator Intelsat. The contract was previously disclosed with Maxar's 2020 first quarter results. Intelsat ordered the satellites to transition its existing media distribution and contribution services—uninterrupted—from the 3.7 to 4.0 gigahertz portion of the C-band, to the 4.0 to 4.2 gigahertz portion of the band as part of the U.S. Federal Communications Commission (FCC) plan to reallocate 300 megahertz of C-band spectrum for 5G terrestrial wireless services. Under the agreement, Maxar will deliver the Galaxy 31, Galaxy 32, Galaxy 35 and Galaxy 36 satellites in 2022. The satellites will provide primarily video distribution services to customers in the continental United States.

#### **Northrop Grumman to Build Two C-band Satellites for Intelsat**

June 15, 2020 - Northrop Grumman Corporation has been selected by Intelsat to build two C-band satellites that will operate in the upper portion of the C-band spectrum, a range of wireless radio frequencies that is used for critical telecommunications and data connectivity around the world. This award supports the Federal Communication Commission's order to make the lower portion of the C-band spectrum available to mobile network operators to further the rollout of critical 5G services. These satellites, Galaxy 33 (G-33) and Galaxy 34 (G-34), will be based on Northrop Grumman's flight proven GEOStar platform. Northrop Grumman has previously built 11 GEO communications satellites for Intelsat and more than 40 GEOStar spacecraft overall.

#### **Rocket Lab to Demonstrate Fastest Launch Turnaround to Date**

June 15, 2020 - Satellite manufacturer and global leader in dedicated small satellite launch, Rocket Lab, announced its next Electron mission is scheduled to launch just three weeks after its most recent mission in a demonstration of the company's rapid launch capability. The mission, 'Pics Or It Didn't Happen,' is scheduled to launch from Rocket Lab Launch Complex 1 Pad A on New Zealand's Māhia Peninsula no earlier than 3 July, 2020 UTC – just days after the successful launch of Rocket Lab's most recent mission, 'Don't Stop Me Now,' on 13 June, 2020 UTC. The back-to-back missions will represent Rocket Lab's fastest turnaround between missions to date. 'Pics Or It Didn't Happen' will deploy seven small satellites to a 500km circular low Earth orbit for a range of customers, including Spaceflight Inc.'s customer Canon Electronics, as well as Planet and In-Space Missions. The primary payload aboard this mission, Canon Electronics Inc.'s CE-SAT-IB, was procured by satellite rideshare and mission management provider Spaceflight Inc. The mission objective for the CE-SAT-IB satellite is to demonstrate Canon Electronics Inc.'s Earth-imaging technology with high-resolution and wide-angle cameras, as well as test the microsatellite for mass production.

#### **UNSW Canberra Space Successfully Launches Another Australian Satellite**

June 15, 2020 - In another milestone for the local space industry, UNSW Canberra has launched the M2 Pathfinder satellite and is now successfully communicating with it. M2 Pathfinder is a collaboration between UNSW Canberra Space researchers and engineers and the Royal Australian Air Force (RAAF). It is the second of four cube satellites to be flown in the program, and follows the launch of M1 in late 2018. The launch took place on Rocket Lab's "Don't Stop Me Now" 12th mission from New Zealand's Māhia Peninsula on June 13 2020. Successful communication with the satellite has been established via UNSW Canberra Space's satellite ground station hosted by Cingulan Space, near Yass in NSW. Small, low-cost satellites like M2 Pathfinder provide a unique opportunity to support Australia's Defence and national security capabilities and to expand the Australian space industry.

#### **Vietnamese Earth Observation Satellite LOTUSat-1 to be launched by Epsilon Launch Vehicle**

June 12, 2020 - The Japan Aerospace Exploration Agency (JAXA) has signed a contract with NEC to launch a Vietnamese Earth observation satellite LOTUSat-1 using Japan's Epsilon Launch Vehicle from the Uchinoura Space Center in Kagoshima Prefecture. LOTUSat-1 is developed and manufactured by NEC and scheduled for launch in 2023. This marks the first contract for the Epsilon Launch Vehicle to launch an overseas satellite. The Epsilon Launch Vehicle is built upon solid-propellant rocket technology that Japan accumulated over more than 60 years since the early days of small experimental vehicle "Pencil Rocket". JAXA is currently advancing the Epsilon S Launch Vehicle project aimed at strengthen Epsilon's international competitiveness in the satellite launch market by achieving a synergistic effect with the H3

Launch Vehicle. LOTUSat-1 will be launched onboard a demonstration flight of the Epsilon S Launch Vehicle Project.

### **For the First Vega Mission of 2020, Arianespace to Perform the Small Spacecraft Mission Service Proof of Concept Flight**

June 12, 2020 - With this mission, designated Flight VV16, Arianespace underscores its comprehensive range of innovative and competitive services to address the nano- and micro-satellite market sub-segment, serving both institutional and commercial needs. The creation of such a new service using the company's light-lift Vega led to the Small Spacecraft Mission Service (SSMS) project. The European Space Agency (ESA) funded the SSMS hardware development, and also contributed with the European Union to the funding of this "Proof of Concept" (PoC) flight. The combined European efforts will enhance Arianespace's response to the rideshare demand with solutions that are perfectly suited to the flourishing small satellite market. For its fifth mission in 2020, and the first Vega flight of the year, Arianespace will orbit 53 satellites on the Small Spacecraft Mission Service (SSMS) Proof of Concept (PoC) Flight. Flight VV16 will be performed from the Vega Launch Complex (SLV) in Kourou, French Guiana.

### **Loft Orbital Awards Contract to Exolaunch to Deliver YAM-3 Microsatellite into Orbit on Falcon 9**

June 10, 2020 - Exolaunch has announced a Launch Services Agreement with Loft Orbital, a San Francisco-based company, to deliver Loft Orbital's YAM microsatellite into sun-synchronous orbit on Falcon 9. Under the contract, Exolaunch will deliver mission management, deployment and integration services to Loft Orbital, who operates microsatellites and flies customers' payloads as a service. The launch is targeted for December 2020 and is part of SpaceX's SmallSat Rideshare Program. The YAM-3 microsatellite will carry various payloads for Loft Orbital's customers, including an Internet of Things payload, an onboard autonomy demonstration, a positioning and queuing demonstration and blockchain applications. YAM-3 will be deployed from a Falcon 9 ESPA port with CarboNIX, Exolaunch's shock-free lightweight separation system for microsatellites. This launch will mark the first cooperation between Loft Orbital and Exolaunch. In addition to the upcoming Falcon 9 mission, Exolaunch is set to arrange the launch and provide deployment services for Loft Orbital's next microsatellite in 2021.

### **FFI Selects GomSpace to Build Military Communication Satellite**

June 10, 2020 - GomSpace signed a contract to develop and deliver a nanosatellite to the Norwegian Defence Research Establishment (FFI). The contract is worth 19 MSEK. The satellite will demonstrate military tactical communications on the UHF band from a polar Low Earth Orbit (LEO). The primary mission objective is to demonstrate the military use and relevance of an Arctic satellite relay for tactical communication radios. Another objective is to demonstrate that such a capability can be made operational in within 2 years from project start and less than 18 months after signing this contract. Launch is planned to October 2021.

### **Telefónica Puts Telesat's Phase 1 LEO Satellite to the Test**

June 4, 2020 - Telesat and Telefónica International Wholesale Services (TIWS), the international wholesale services provider of the Telefónica Group, have completed live in-orbit testing across a wide range of applications on Telesat's Low Earth Orbit (LEO) Phase 1 satellite. With a mission to increase agility and improve operational efficiencies, TIWS partnered with Telesat on a rigorous testing campaign to explore the performance and feasibility of leveraging LEO satellites for high-end services. Testing demonstrated that Telesat LEO could be a viable option for wireless backhaul and presents a substantial improvement in performance over geostationary orbit (GEO) links, without the use of compression or TCP acceleration techniques that are typically required in 650ms latency GEO environments.

### **Preparations Resume for Vega's Upcoming Mission with 53 Small Satellite Passengers**

June 1, 2020 - The launch campaign has resumed for Arianespace's next mission, which will be the proof-of-concept flight with the Vega launcher's "ride-share" configuration – known as the Small Spacecraft Mission Service (SSMS). Scheduled for the middle of this month from the Spaceport in French Guiana, it will loft 53 micro- and nanosatellites for the benefit of 21 customers, deploying these payloads into Sun-Synchronous orbit. For the mission, designated Flight VV16 in Arianespace's launcher family numbering system, Vega will carry seven microsatellites weighing from 15 kg. to 150 kg., along with 46 smaller CubeSats. These spacecraft are to serve various applications, including Earth observation, telecommunications, science, technology and education. The SSMS program, initiated by the European Space Agency (ESA) with the European Commission's contribution, will boost Arianespace's ability to offer ride-share solutions tailored for the flourishing small satellite market.

## EXECUTIVE MOVES

### **Yahsat Names Andrew Cole as New Chief Financial Officer**

June 30, 2020 - Al Yah Satellite Communications Company (Yahsat), the leading UAE-based global satellite operator, announced that its Board of Directors has appointed Andrew Cole as Chief Financial Officer (CFO). He will assume the position from 1 July onwards. Andrew joins Yahsat soon after the company boosted its leadership with four Emirati executive appointments to lead its government, commercial, operational and technical business units. Andrew has 25 years of cross-sector experience in senior finance, operational and advisory roles. From 2015 to 2019, he was the Group Financial Controller at SES, a company with a constellation of Geostationary and Medium Earth Orbit Satellites. His primary functions covered all aspects of Finance including Financial Planning, Governance, Risk (including satellite insurance) and Compliance, Accounting and Global Controlling operations. He has also worked for EY and KPMG London as an external auditor and business advisor to many global enterprises. His experience during his years in an external advisory role includes M&A and Financing, Corporate Restructuring, Commercial Planning, Tax, Treasury, Audit & Accounting as well as Risk Management.

### **SES Announces Senior Leadership Team Changes**

June 18, 2020 - SES today announced that Ferdinand Kayser, who has spent nearly 20 years at SES leading the video business and is presently the CEO of SES Video, has decided to retire at the end of 2020. The next six months will allow for a full and orderly transition of executive activities directly to Steve Collar, CEO of SES, who will assume responsibility for SES's Video business from 1 July 2020. In addition to supporting the transition, Kayser will take a leading role in deepening SES's activities across government and institutions in Luxembourg and will continue to serve as Chairman of both the SES Astra and GovSat boards. The company also announced that Thai Rubin, SES's Executive Vice President of Legal Services, will become the Chief Legal Officer as of 1 July 2020, succeeding John Purvis who has decided to step back from his current role for personal reasons, after having led SES's legal team for 13 years. Purvis will remain an important member of SES's legal team on a part-time basis, reporting to Rubin. Rubin has been part of the SES Group since 2006. He joined SES upon acquisition of New Skies Satellites and went on to serve in management roles in both SES New Skies and SES World Skies. In 2011, Rubin joined O3b Networks as General Counsel and served as a key member of the leadership team through the successful launch, commercialisation and ultimate acquisition of O3b by SES.

### **ULA Names Vernon Thorp as Director of Global Commercial Sales**

June 16, 2020 - United Launch Alliance (ULA) named Vernon Thorp as Director of Global Commercial Sales. In this position he will lead all commercial sales activities for Atlas V and the Company's next-generation Vulcan Centaur rocket launching next year. Thorp has more than 30 years of experience supporting customers and missions and was recently ULA's Commercial Program Manager. In this role he supported the sales of the first commercial Vulcan Centaur customer orders and has managed their mission integration efforts progressing towards the on-time first launch scheduled for 2021. Vulcan Centaur will provide higher performance and greater affordability while continuing to deliver on ULA's unmatched characteristics of reliability, schedule certainty, and orbital delivery precision.

### **SIG Appoints Kratos' Bob Potter as Director**

June 10, 2020 - The Satcoms Innovation Group (SIG) has announced that Bob Potter of Kratos Defense and Security Solutions has been appointed a Director of the group. Bob joins existing directors Andreas Voigt of Eutelsat and Mark Steel of Inmarsat, led by recently appointed Managing Director, Helen Weedon. Bob has been heavily involved with SIG for many years, during which time he has spoken regularly at the group's events and conferences. His experience in RF systems design and measurement techniques extends back more than 25 years. Bob has held several senior-level and executive positions from Chief Technology Officer (CTO) to President over the years. Currently Bob is Vice President, Signals and Ground System Technology for Kratos, Bob has pioneered the company's creation of next-generation RF network management solutions, helping to make the company one of the premier providers of satellite measurement and interference mitigation solutions. His expertise lies in radio communications and hardware/firmware design, with a focus on delivering customer-focused solutions.

### **ViaLite Appoints John Meyers as Sales Manager for APAC Customers**

June 9, 2020 - ViaLite Communications has appointed John Meyers as APAC Sales Manager. This new role sees the company's expansion with the addition of a dedicated Manager for the APAC region; supporting the business's growth in this area. John brings over 30 years of experience in the Asia-Pacific market to the

business and through his vast satcom experience, enhances ViaLite's 'experts in RF over fiber' offering. John's experience within the industry has allowed him to develop closer working relationships with a number of satellite operators, cellular network operators and government entities. This experience and these relationships will prove an asset in his management and support of the expanding ViaLite APAC distributor network. John initially began his career as a software engineer in the United States before moving into the APAC satellite communications market. After joining Gilat Satellite Networks in 1997, John then re-located to Bangkok, Thailand, and assisted in developing a regional sales and technical support presence.

### **Globecast Promotes Denis Genevois to Vice President of Marketing Group and Olivier Zankel to Vice President of Communications Group**

June 3, 2020 - Globecast has announced that Denis Genevois and Olivier Zankel are moving into new marketing roles. Genevois, who joined Globecast in 2001, is now VP Marketing Group and Zankel, who joined Globecast in 2011, is now VP Communications Group. They will both report to Philippe Bernard, CEO, Globecast, with the two also now sitting on the Executive Committee. They replace Juliet Walker who has moved to take up a role at parent company Orange Business Services. As VP Marketing Group, Genevois is now overseeing the defining of service strategies and the way that services work with, or alongside, one another as well reporting sales performance. He is also in charge of defining sales strategies by market and region. Since 2018, Genevois has been in charge of marketing and business development for broadcasters handling international pre-sales activity at Globecast.

## REPORTS

### **Inmarsat's Welfare 2.0 Report Investigates the Role of Technology in Crew Welfare**

June 25, 2020 - Inmarsat has published a new report focusing on the way technology can benefit crew safety, health and wellbeing at sea, at a moment when COVID-19 has exposed the welfare of seafarers to global scrutiny. The new report explores the underlying factors affecting crew safety, welfare and learning, and highlights those companies working to address the pain points. It shows that, while the maritime industry prides itself that seafarer safety and welfare is its highest priority, lack of investment in the digitalised technologies benefiting worker welfare, particularly compared to investment in other sectors, undermines the narrative.

### **WTA Report Provides Key Data from WTA Certification Auditors on Management Practices**

June 25, 2020) - The World Teleport Association (WTA) released *High Performance: Insights that Improve Quality of Service*, a new research report in the High Performance series that explores the biggest threats to quality of service, how management practice affects QOS outcomes and the sometimes-unexpected factors that underpin high performance or lead to its opposite. The WTA Teleport Certification program relies on a group of auditors to conduct onsite inspections of teleports undergoing certification. They work from the results of the detailed questionnaire that teleport operators complete in the provisional certification stage. The inspection aims to confirm the data in the questionnaire but also to evaluate the facility and operating procedures in their context.

### **NSR Report: \$478 Billion in Cumulative Satellite Orders and Launches Projected in Next Decade**

June 23, 2020 - NSR's *Global Satellite Manufacturing and Launch Markets*, 10th Edition (GSMLM10) report, released today, projects a \$478 B opportunity for the satellite manufacturing and launch market over the next decade. This new study integrates satellites below 500 kg, covering the whole spectrum of satellite mass classes and applications. In addition, GSMLM10 includes cargo and crewed missions to ISS and beyond, making up a significant portion of the market size in the coming decade. Overall, near term business case viability remains a challenge for all industry stakeholders due to the environment of heightened competitive dynamics. Competition push and market pull will result in simultaneous growth in demand along with decline in value. Amidst the rise of constellations pushing the number of satellite orders above 12,000, and bringing down the price per satellite, new non-traditional business models and customizable solutions enter the market impacting the traditional equation.

### **Frost & Sullivan Expects 5G-powered Digital Indoor Systems to Thrive in the APAC New Normal**

June 17, 2020 - Frost & Sullivan's recent analysis, *The Future of Indoors with Digital Indoor Systems (DIS)*, finds the indoors will be the enabler of future revenue stream for businesses and mobile operators. The launch of 5G technology and the disruptions caused by COVID-19 have reinforced the need to prepare homes and offices for the new normal. Growth of network traffic originating from indoors is pushing much

of today's distributed antenna systems to the limit with an estimated 60% of customers dissatisfied with indoor coverage. This is setting off an innovation race to transform next-generation indoor solutions, including digital indoor systems.

### **Euroconsult Report: Private Investment Fuels Chinese Commercial Space Sector Growth**

June 5, 2020 - In its latest research titled "*China Space Industry Report*," Euroconsult provides in depth analysis of how commercialization is driving both growth and technology advances in the Chinese space sector, with oversubscribed IPOs and a wave of private investment. China Satcom is now the world's highest valued pure satellite operator with a market cap of US\$11 billion as of May 2020, while China Satcom parent company China Aerospace Science and Technology Corporation (CASC) reported record revenues of \$37 billion in 2018. With a deep-dive into the structure of the Chinese space industry, the report details the relationships between myriad space organizations and China's complex delineation between commercial and government entities. The Chinese government began to liberalize private investment into the space sector in 2014, and since then more than US\$900 million in private funding has been invested. With nearly equal investment from government sources, commercial companies have raised a total of at least US\$1.85 billion since 2014.

## UPCOMING EVENTS



**ONLINE SPACE TECH SUMMIT**  
2020, 23 JULY

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AND SATELLITE COMMUNICATION

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TECHNOLOGIES

### **ONLINE SPACE TECH SUMMIT**, July 23, <https://connectlp.keysight.com/Online-Space-Tech-Summit-2020> **Keeping Up With The New Space Race**

The last decade space and satellite industry have witnessed groundbreaking technological innovation that fuel new disruptions that might displace established industries. Such disruptive technologies are driving commercialization of low earth orbit, explosion of CubeSat manufacturing and launch, new adaptable and flexible ground station, and new forms of satellite constellation. With more technologies like IoT and UAV integrated in 5G Hybrid Terrestrial-Satellite Networks, what kind of next generation transponders do we need to cope with this? Will space laser network successfully usher in a new generation of high-speed connectivity from space? What are the key innovation areas of 3GPP Rel-17 in 5G NTN? Learn all these in the upcoming Online Space Tech Summit 2020, enabled by Keysight Technologies

**APSAT 2020**, September 23-24, Jakarta, Indonesia, <https://apsat.assi.or.id/>

**Satellite Industry Forum**, September 24-25, Virtual Edition, <https://www.aviasif.com/>

**ConnecTechAsia 2020**, September 29 - October 1, Virtual Edition, [www.connectechasia.com](http://www.connectechasia.com)

**APSCC Summit @ConnecTech Asia**, September 29 - October 1, Virtual Edition, <https://apscc.or.kr/apscc-connectech-asia-2020/>

**Future of Video India**, October 10, Virtual Edition, [https://avia.org/all\\_events/the-future-of-video-india-2020/](https://avia.org/all_events/the-future-of-video-india-2020/)

**IAC 2020**, October 12-14, Virtual Edition, <http://www.iafastro.org/events/iac/iac-2020/>

**CABSAT 2020**, October 26 - 28, Dubai, UAE, [www.cabsat.com](http://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 Video Summit 2020**, November 9-11, Singapore, <https://asiavideosummit.com/>

**World Satellite Business Week**, November 9-12, Paris, France, <http://www.satellite-business.com/en>

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

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### **About APSCC**

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