

APSCC Monthly e-Newsletter

January 2022

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

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

INSIDE APSCC

APSCC 2022 Webinar Series Continues LIVE Tuesday 9AM HK | Singapore Time

The most frequent and largest ongoing virtual conference in the Asia Pacific satellite community – the APSCC 2022 Webinar Series incorporates industry veterans, local players, as well as new market entrants in a single event to reach a wide-ranging audience. The APSCC 2022 Webinar Series continues to play a vital role in supporting the industry in the Asia Pacific region and beyond with a brand-new format, a lengthened timeline, and a potentially unlimited reach. Register now and get access to the complete APSCC 2022 Webinar Series with a single password. To register go to <https://apscsat.com>.

APSCC Session @PTC'22: GEO Satellite Innovations

Despite the LEO fervor and investment activity, GEO satellites still remain a highly relevant enabler of satcom connectivity. Software-defined payloads, small GEOs, new business models and other innovations are all on the table as GEO operators seek to future proof their business.

Date: Tuesday, 18 January'22 (1545 – 1500) HST
Venue: Hilton Hawaiian Village Waikiki Beach Resort, Honolulu, Hawaii & Online Platform
Moderator: Gregg Daffner, President of APSCC and Jose del Rosario, Research Director of NSR
Speakers: Kevin Choi, CTO of KTSAT
Jacques-Samuel Proton, Executive Vice-President of Kacific
Robert Suber, Managing Sales Director for Oceania and the Philippines of Intelsat

SATELLITE BUSINESS

One of the World's Largest MNOs to Deploy Gilat's 4G Cellular Backhaul over Satellite Technology

January 3, 2021 - Gilat Satellite Networks Ltd., a worldwide leader in satellite networking technology, solutions, and services, has announced that one of the world's largest Mobile Network Operators (MNOs) will deploy 4G cellular backhaul over satellite technology from Gilat. The top-tier MNO, serving hundreds of millions of subscribers in Asia, will implement Gilat's SkyEdge II-c system and Capricorn Outdoor VSATs, which will enable improved Voice and Data over LTE services for its mobile subscribers. This 4G cellular backhaul solution over satellite is expected to be deployed in the first quarter of 2022.

KVH Announces VSAT Services for Vessels in Indian Waters

December 21, 2021 - KVH Industries, Inc., has announced the launch of satellite connectivity services that will allow vessels to use KVH connectivity while operating in Indian territorial waters. In addition, KVH will offer satellite connectivity services to Indian flagged vessels. Station Satcom Private Ltd, an existing KVH service provider based in Mumbai, will be KVH's distribution launch partner in India. KVH's VSAT services, which utilize Intelsat's FlexMaritime network, are designed to make it possible

for the thousands of vessels that operate in Indian waters to benefit from the fast data speeds and reliable connectivity of high-throughput satellite (HTS) technology. For the Indian services, Intelsat worked closely with local entities to get the approvals needed for maritime use at a key time. Commercial vessels are migrating from legacy L-band services to Ku-band HTS VSAT services, such as those offered by KVH, as the maritime industry pursues digitalization to optimize operational efficiency and increase crew welfare.

OneWeb Welcomes Vocus as First Distribution Partner in Australia

December 20, 2021 - OneWeb has welcomed Vocus, Australia's specialist fibre and network solutions provider, as its first distribution partner in Australia. The partnership will see Vocus deliver OneWeb's high-speed, low-latency communications services across the country. Supported by a network of gateways and user terminals, OneWeb's global connectivity platform will provide high-bandwidth and low-latency connectivity to expand Vocus's existing connectivity capabilities in and across Australia. The partnership will enable a fibre-like experience to benefit end users, offering network and internet access no matter where customers are, and will showcase Vocus' technical capabilities as well as its commitment to delivering exceptional experiences. The partnership will focus on expanding bandwidth for a variety of industries such as government, mining, oil and gas, utilities, construction, and community services. This will serve a range of use cases and benefits, including improving corporate efficiency, health and safety, asset tracking, environmental monitoring, and new operational applications, while also helping remote workers better connect with their families and loved ones back home. Utilising the power of OneWeb's network, Vocus will augment its existing GEO satellite or microwave connectivity by adding low-latency LEO satellite services. Through its national high-capacity fibre infrastructure, Vocus delivers connectivity, collaboration, hybrid cloud and data centre solutions to enterprise and government organisations across a wide range of industries, including those in regional or remote locations who previously had limited or no connectivity.

Honeywell, SES and Hughes Demonstrate Multinetwork Airborne Connectivity for Government Customers

December 20, 2021 - Honeywell SES and Hughes have successfully demonstrated multinetwork, multiorbit high-speed airborne connectivity for military customers, a technological breakthrough that will enable government and military personnel to communicate between the ground and air more efficiently and securely than ever. Honeywell's JetWave MCX broadband satellite communication (SATCOM) solution, using an HM-series modem from Hughes Network Systems LLC (Hughes), was paired with SES' medium earth orbit (MEO) high-throughput, low-latency network, and multiple SES geostationary satellites, including the government-dedicated GovSat-1 satellite. Airborne demonstrations showed that Honeywell's JetWave MCX terminal is compatible with various Ka-band network capabilities and can provide military customers with network resilience that supports primary alternate contingency and emergency (PACE) communication requirements. Additionally, SES' MEO constellation provided both lower latency and fiber-like connectivity during the demo flights, with full duplex data rates of more than 40 megabits per second. This is noteworthy due to government customers' demand for robust uplink, as evidenced by multiple simultaneous HD video feeds. To achieve additional levels of security, the companies leveraged the military Ka-band government frequencies delivered via the SES GovSat-1 satellite and the software-defined Hughes HM-series modem. These capabilities ensure that today's warfighters have the data they need, when and wherever they need it, including in contested and high-activity environments.

Kacific Goes All-in on AWS to Scale up Delivery of its Broadband Internet

December 20, 2021 - Kacific Broadband Satellites announced that it is going all-in on Amazon Web Services (AWS) to scale up the delivery of its broadband internet for the rural regions of Southeast Asia and the Pacific. Kacific plans to migrate its IT infrastructure and critical business applications to AWS by 2022. AWS has enabled Kacific to reduce time-to-market and to enhance network

management by approximately 50% and respond more rapidly to customer requests and needs. These gains in productivity and quality of service, achieved by leveraging AWS technologies like compute, storage, and databases, in combination with Kacific's commitment to providing affordable connectivity, have improved healthcare outcomes, educational opportunities, and disaster recovery capabilities for millions of people living in remote areas of Southeast Asia and the Pacific. By migrating its IT support systems to the world's leading cloud services provider, Kacific is taking a "cloud-first" approach to provide accessible, high-quality, low-cost broadband internet connectivity enabling it to connect subscribers to its rapidly expanding network.

Viasat Expands Partnership with US Navy

December 20, 2021 - Viasat Inc. has announced two new contracts with the Navy Exchange Service Command (NEXCOM) to deliver triple-play services (Wi-Fi, voice and TV) in Guam, and managed Wi-Fi in Poland. These contracts expand Viasat's work with NEXCOM in providing high-quality personal-use telecommunications to Sailors at bases around the world in Unaccompanied Housing (UH), Morale, Welfare and Recreation (MWR) facilities and Navy lodging facilities. These new contracts demonstrate Viasat's continued relationship with NEXCOM, expanding its support for Sailors and their families with delivery of reliable connectivity beyond the battlespace at installations outside the continental U.S. (OCONUS). Under the first agreement, Viasat will deploy a new fiber network backbone to support Naval Station Guam and Andersen Air Force Base, as well as upgrade the buildings at these facilities with new Wi-Fi and Voice over Internet Protocol (VoIP) equipment. This work will also require replacing the legacy copper-based networks connecting to all the buildings. Together, this modernization will enable a better experience for Navy and Air Force service members and their families, improving the speed and resiliency of their internet, Wi-Fi, voice and TV services. In a separate contract, Viasat will support the Navy at its new Naval Support Facility (NSF) Redzikowo in Poland by providing reliable, resilient connectivity. Specifically, the facility received a new Wi-Fi network and management support system, which are similar to the Wi-Fi services that Viasat already provides to more than 100 Navy installations around the world.

Ovzon Receives Renewed Order from Airbus for the UK MoD

December 20, 2021 - Ovzon has secured the contract renewal from Airbus for the UK Ministry of Defence (UK MoD). The renewal is for the use of Ovzon's SATCOM-as-a-Service which includes satellite capacity and Ovzon's industry-leading mobile satellite terminals. The order is a 6-month extension of an initial order received earlier in 2021. The order value is 500,000 USD with contract starting in February 2022. UK MoD have already used Ovzon services successfully in different scenarios and needs. Among other things, Ovzon's ultra-small mobile satellite terminals have been used to build a temporary network over a larger area with the capacity needed to integrate and connect various applications such as VoIP, radio services, and video streaming.

KT SAT Suggests Establishing a "LEO Alliance" to Regional Satellite Operators

December 16, 2021 - KT SAT suggested establishing an alliance for LEO business to regional satellite operators at the World Satellite Business Week 2021 hosted by Euroconsult which is held in Paris, France with 95% of global satellite operators worldwide in attendance. KT SAT CEO Kyungmin David Song attended as a panelist in the panel discussion by online with its topic of "How regional operators can adapt and differentiate in this increasingly competitive market environment?". He drew audiences' attention as he shared KT SAT's vision for LEO business with creating a global alliance. Four panelists attended the discussion including Song, C-level executives from Hispasat (Spain), Turksat (Turkey) and Yahsat (Arab Emirates) respectively. Fierce competition in satellite market is currently expected as many operators participate in LEO business including World top IT companies. LEO satellite features its High through-put and low latency as its strong points compared to traditional GEO satellite. But still, it contains technology issues which have to be solved like gateways, ISL(Inter Satellite Link) and so on. KT SAT also introduced its Hybrid solution developed by KT group with its in-house technology. Hybrid solution provides stable network connections and true

seamlessness without any glitch. Moreover, the solution can be applied to any type of satellite and terrestrial network such as LEO, GEO, mobile network and etc. As multi-orbit satellites keep emerging, Hybrid solution is considered as a key for service providers to integrate diverse networks as a whole.

Intelsat Achieves Confirmation of Plan of Reorganization, Final Court Milestone in Financial Restructuring Process

December 16, 2021 - Intelsat S.A. announced today that the U.S. Bankruptcy Court for the Eastern District of Virginia, Richmond Division, has approved its Plan of Reorganization, marking the final Court milestone in the Company's financial restructuring process. Intelsat is poised to emerge from the process in early 2022 upon receipt of regulatory approvals, completion of certain corporate actions, and satisfaction of other customary conditions. The confirmed Plan will reduce Intelsat's debt by more than half – from approximately \$16 billion to \$7 billion – and position the Company for long-term success as it innovates and brings new services to market. The Plan was supported by all creditor groups across Intelsat's capital structure following extensive negotiations and the ultimate consensual resolution of a multitude of complex issues. Under the terms of the Plan and with exit financing commitments already obtained, Intelsat is set to emerge as a private company, with the support of new equity owners, access to \$7.875 billion in capital, and a significantly deleveraged balance sheet. The Company is well positioned to continue to reduce its debt upon receipt of \$4.87 billion of accelerated relocation payments in connection with the C-band spectrum clearing project, with \$1.2 billion of the total already approved by the Federal Communications Commission for anticipated receipt in January.

Inmarsat ORCHESTRA Hits First Milestone in Space with New LEO Satellite

December 16, 2021 - Inmarsat ORCHESTRA, the future network for global mobility and government communications, has achieved its first milestone in space with the successful activation of a low Earth orbit (LEO) satellite payload. The LEO satellite is testing new concepts and system configurations for ORCHESTRA's proposed LEO constellation, which will seamlessly integrate with geosynchronous orbit (GEO) and highly elliptical orbit (HEO) satellites, and a terrestrial 5G network, to deliver a uniquely powerful global communications solution for mobility and government customers. ORCHESTRA is the first global network of its kind; creating a global, multi-dimensional, dynamic mesh network that will redefine connectivity at scale with the highest capacity for mobility worldwide and at hot spots across the world. It will deliver the fastest average speeds and the lowest average latency of any network, planned or in existence. While details of the in-orbit testing remain confidential, Inmarsat has confirmed that the LEO demonstration satellite payload is testing concepts for LEO-to-ground and LEO-to-GEO communications, which are key steps in delivering the unique capabilities proposed for ORCHESTRA. As the LEO satellite features a reprogrammable payload, additional concepts will be tested over the coming months.

Intelsat and Telefónica Global Solutions Partner on High-speed Rural Connectivity in Germany

December 16, 2021 - Telefónica Germany is now using the Intelsat CellBackhaul managed service through Telefónica Global Solutions (TGS) to bring 4G LTE mobile coverage rapidly, cost-efficiently, and reliably to customers in some of its most rural coverage areas. Telefónica Germany is always working to strengthen and expand its national network coverage. Now it can access the digital services that are key in today's world as well as remote areas of Germany that cannot be reached by traditional technologies such as microwave or fibre. Intelsat CellBackhaul, an end-to-end managed service recently launched for Europe, proves an ideal solution because it helps MNOs of any size to expand 4G mobile coverage. Now, with Intelsat CellBackhaul technical solution as part of its network strategy, and Telefónica Global Solutions support and contribution, German network provider Telefónica Germany can ensure its subscribers stay connected at more places anywhere they go. Telefónica Global Solutions is a prime contractor with the support of Intelsat, deploying a satellite solution to Telefónica's mobile 4G network extension in Germany. Thanks to this project, Telefónica

Global Solutions continues to be the market reference point for cellular backhaul services over satellite.

Seraphim Space Investment Trust PLC acquires ICEYE and D-Orbit

December 16, 2021 - Seraphim Space Investment Trust plc, the world's first listed fund focused on SpaceTech, announces the acquisition of the holdings of ICEYE Oy and D-Orbit SpA from Seraphim Space LP. As set out in the IPO prospectus, SSIT agreed to acquire four assets from the Seraphim Space Fund for newly issued ordinary shares in the company. These two acquisitions represent the final of these transactions to complete. ICEYE operates the world's first and largest constellation of miniaturised satellites that use radar to image the Earth both during the day and night, even through cloud.

IMS and SES to Expand Internet Connectivity to Underserved Colombian Communities with O3b mPOWER

December 15, 2021 - SES's satellite-based trunking services will enable leading Colombian fibre optic networks service provider Integra Multisolutions (IMS) to extend and enhance fibre-like connectivity for Colombian municipalities with fewer than 100,000 inhabitants located out of the reach of terrestrial infrastructure, SES announced today. The new service will begin on SES's O3b medium earth orbit (MEO) constellation and later migrate onto O3b mPOWER, SES's next-generation MEO system, in 2022 when service will expand to additional cities. The first site to be connected will be Puerto Leguizamo, a municipality located in the Putumayo Department in the southern border region of the country. SES and IMS will go on to deliver service to other sparsely populated cities across Colombia that experience poor or inconsistent connectivity services. SES's Trunk mPOWERED service will equip IMS to enable local Internet service providers to serve a combination of enterprise, residential, MNO and civilian government projects. IMS is among the first companies in Latin America to sign up for the O3b mPOWER system, which can deliver low-latency, high-speed, uncontended services from tens of megabits to multiple gigabits per second to a single site.

Supernet Unlocks Global Service Offering through SatADSL's neXat Platform

December 15, 2021 - Supernet Limited, Pakistan's largest satellite communications systems integrator and service provider, and Belgium based SatADSL S.A. have announced the signing of an agreement empowering Supernet to benefit from the global service offering opportunities via SatADSL's neXat platform. neXat is a cloud-based, complete OSS/BSS that enables Supernet to extend the reach of its services as well as sell and buy excess and/or unused capacity in the international market. The platform allows Supernet - whose offering to its customers was previously limited to Pakistan - to expand its business by offering services globally. Supernet can also take advantage of neXat's eMarketplace to buy and sell managed capacity outside of their existing coverage zones, at a global scale no less, in the fastest time possible. The partnership will also enable SatADSL to offer Ku-band services in the South Asia region.

KSAT and GHGSat Announce Agreement on Ground Station Services and Use of Greenhouse Emissions Data

December 15, 2021 - KSAT and GHGSat have entered into an agreement for delivery of Ground Station Network services for constellation support and downlink of data. The agreement also includes the use of GHGSat greenhouse emissions data for KSATs sophisticated EO services. Monitoring the release of greenhouse gases is a key component in the global framework against climate change. Through this agreement Kongsberg Satellite Services (KSAT), operating the world's largest network of commercial ground stations, will provide services that allow GHGSat to access their fleet with low latency and maximum flexibility. GHGSat, a Canadian company and the global leader in high-resolution remote sensing of greenhouse gas from space, will also be a key partner to KSAT in the provision of emissions imagery to be integrated into KSAT's Earth Observation (EO) services, such as infrastructure monitoring, feature detection and as part of situational awareness

activities. KSAT will support GHGSat with its KSATlite product – a standardized multi-mission solution that can be tasked with cutting-edge machine to machine interfaces and which today supports over 1000 satellite passes daily. The flexible software-defined architecture will offer global coverage and scalable support for the growing GHGSat constellation. GHGSat operates the world's only high-resolution satellites designed to monitor facility-level greenhouse gas emissions, collecting accurate and reliable data based on direct measurements for operators, governments. The company has raised over CAD 100M and uses its proprietary technology to deliver emissions data to stakeholders to initiate action on climate change. Recently GHGSat confirmed the launch of its next 3 satellites dedicated to methane, to be in orbit in 2022, along with 7 more instruments to follow by 2023.

Omantel Selects Hughes to Extend Cellular Network Reach, Connect More Customers

December 13, 2021 - Hughes Network Systems, LLC announced that Omantel, the first and leading integrated telecom services provider in Oman, has selected the Hughes JUPITER™ System to extend its mobile networks to serve more customers. Omantel will deploy satellite backhaul of cellular network traffic using JUPITER System equipment, including a gateway hub and hundreds of remote terminals. The JUPITER System is the next-generation Very Small Aperture Terminal (VSAT) platform from Hughes for broadband services over both high-throughput and conventional satellites. In use at more than 12,000 cellular sites across Africa, Asia and Latin America, the JUPITER System offers a low-cost and effective means of interconnecting cellular base stations, regardless of distance, infrastructure or terrain.

OneWeb Welcomes Network Innovations as Distribution Partner to Improve Connectivity across Canada and Globally

December 13, 2021 - OneWeb announced today a new Canadian-headquartered distribution partner, Network Innovations. Network Innovations will deliver OneWeb's high-speed, low-latency communications services through Canada and across the globe to benefit essential government and enterprise customers. Supported by a global network of gateways and user terminals, OneWeb's global connectivity platform will provide high-bandwidth and low-latency connectivity to expand Network Innovations' critical communications. The partnership will enable Network Innovations to connect people where they are located, even in the most remote places. OneWeb's partnership with Network Innovations will focus on expanding bandwidth for government and enterprise markets. Utilizing the power of OneWeb's network, Network Innovations can augment its engineered solutions by adding low-latency services. Network Innovations is a global leader in connecting people, places, and things to meet the unique needs of government, defense, maritime, enterprise, and IoT customers. The company has grown over three decades to maintain an extensive network of partners operating globally throughout the Americas, Asia Pacific, Europe, the Middle East, and Africa.

Eutelsat Wins 'Strategic Transaction of the Year' Award for its Investment in OneWeb

December 13, 2021 - Eutelsat communications is delighted to receive the 'Strategic Transaction of the Year' award at this year's World Satellite Business Week in recognition of its strategic investment in LEO constellation operator, OneWeb. The award is a recognition of Eutelsat's strategic move in April 2021 to take a leading stake in OneWeb alongside Bharti Global and the UK government. The transaction consolidates Eutelsat's position as the only global satellite operator combining resources in geostationary orbit with unique access to the low Earth orbit segment. The aggregate investment by Eutelsat amounts to USD 715 million, giving it a 22.9 percent stake in OneWeb[1] and making it OneWeb's second largest shareholder. Eutelsat's equity investment comes with significant governance rights, including representation on the Board of Directors, while Eutelsat's market position and technical expertise as a world-class satellite operator will play a pivotal role in the success of this new constellation.

Intelsat Named 2021 Best Satellite Operator by Telecom Review Excellence Awards

December 9, 2021 - Intelsat has been named the Best Satellite Operator by Telecom Review. The

award was presented to Intelsat during the 15th edition of the Telecom Review Leaders' Summit held virtually and in-person at the InterContinental Dubai Festival City in Dubai, the United Arab Emirates. Telecom Review's Excellence Awards ceremony recognizes companies and industry leaders for their accomplishments during the year. Together with an independent panel of judges, Telecom Review continued its dedication and commitment to the ICT industry in ranking the best of the best in terms of corporate innovation, performance, individual capabilities and contributions globally. Intelsat was awarded Best Satellite Operator for its diverse portfolio of communications solutions that power the world's leading media companies, fixed and wireless operators, telecommunications operators and multinational corporations.

New Symphonie Consortium Wins Concept Study for the European Commission to Shape Future Global Connectivity by Satellite

December 9, 2021 - New Symphonie, the recently established consortium of 22 European companies, has won the European Commission call for tenders entitled "New Space solutions for long-term availability of reliable, secure, cost-effective space-based connectivity". Selected for its exceptional innovation and familiarity with leading-edge technologies, the consortium led by UNSEENLABS and EUROCONSULT will be awarded a six month study contract for a total amount of 1.4m euros. Through the study, the consortium members will investigate and recommend to the European Commission the most optimal infrastructure for secure connectivity markets. The study aims at defining the secure connectivity requirements that could be addressed by a European multi-orbit satellite system to be conceptually designed with innovative technologies for an attractive business plan. boasting 22 members from no less than 8 countries, New Symphonie is founded on a resolutely multi-national approach at European level. The consortium blends the wealth of experience brought by incumbents UNSEENLABS and EUROCONSULT with the disruptive business models and use cases of small and medium sized businesses driving the advent of "New Space". The consortium will leverage the new ideas prevalent in the commercial space ecosystem with the technical expertise and market awareness of UNSEENLABS and EUROCONSULT, respectively, to define an innovative EU Space-based Global Secure Connectivity System.

Hispasat and Eureka Reach an Agreement to Extend 100 Mbps Satellite Internet in Rural Spain

December 9, 2021 - Hispasat and Eureka have reached an agreement to extend satellite Internet of up to 100 Mbps in rural Spain seeking to narrow the digital divide suffered by a large part of its population. Both companies expand their alliance in the provision of satellite connectivity services in Spain in a context in which, according to estimates by the Secretary of State for Telecommunications and Digital Infrastructures, by the end of 2021 more than 1 million Spanish households will not have Internet access of 100 Mbps. In this way, with their agreement, both companies will offer the rural environment a high-speed Internet access solution, which immediately meets the 100 Mbps connectivity objective set by the Recovery, Transformation and Resilience Plan of the Spanish government for 100% of the population in 2025. This alliance will materialize in the launch by Eureka of a competitive satellite broadband offer throughout Spain with speeds of up to 100 Mbps. In addition, it will not require a fee for the registration or installation of the equipment, since the inhabitants of rural Spain will be able to benefit from the Broadband Aid Program promoted by Red.es, through which people or entities of populations with less than 5,000 inhabitants who do not have fixed broadband services with a download speed of more than 10 Mbps will be able to cover up to 400 euros of the expenses derived from the acquisition of equipment, installation and commissioning.

Comtech Awarded \$2.0 Million Satellite Ground Station Equipment Order from Intellian

December 8, 2021 - Comtech Telecommunications Corp. was awarded an order approximating \$2.0 million from Intellian, a leading global maritime satellite communication antenna systems provider. The order calls for Comtech to deliver C-Band and Ku-Band Low Power Outdoor Block Up Converters ("LPOD BUCs"). Comtech's field-proven LPOD BUCs will provide Intellian with the ability to offer its

customers the utmost reliability in the most demanding of marine environments, such as Cruise, Oil & Gas and Merchant Shipping. Comtech's LPOD BUC product line provides advanced monitor and control features that enable real-time access to critical performance and status data to ensure that system operators can manage and optimize networks to the highest possible standards.

ST Engineering's Corporate Venture Capital Unit Invests in hiSky

December 8, 2021 - ST Engineering today announced that its Corporate Venture Capital unit, ST Engineering Ventures Pte Ltd led a US\$30m Series A round in Israel-based hiSky Ltd., a leading developer and provider of affordable and agile satellite Internet of Things (IoT) networks and solutions, with participation from SDF (Strategic Development Fund), the investment arm of Tawazun Holding, and hiSky's existing shareholders. The investment in hiSky enables ST Engineering's satellite communications business, ST Engineering iDirect, to leverage the former's cost-effective and easy-to-install IoT network. This comprises the Smartellite™ satellite terminals and cloud-based network management system (NMS), which are complementary and integrated into existing ST Engineering iDirect's hub stations and can be quickly deployed in current ST Engineering iDirect satellite networks.

Speedcast Secures Contract with Oliveira Energia for Connectivity Backbone Supporting 42 Sites

December 7, 2021 - Speedcast has been selected by Oliveira Energia for a multi-year contract to deliver connectivity service to 42 power plants in the countryside of Amazonas State. Brazilian power electric generator Oliveira Energia serves more than two million customers in the Amazon basin. The service is being delivered by Speedcast's Brazilian entity, SC Caprock. The agreement includes the now completed installation and launch of a C-band VSAT (very small aperture terminal) network, which includes delivery of a supervisory control system, CCTV, VOIP and Internet access. Additionally, the company's Brazilian entity will deliver equipment leasing, field maintenance and 24x7 network monitoring and support via its Customer Support Center. The hub of the VSAT network was also installed at Oliveira Energia's headquarters in Manaus, which is operated remotely from the company's Brazilian teleport network operations center.

First UK-generated National Satnav Signal to be delivered in Test Project by Inmarsat, Goonhilly and GMVNSL

December 7, 2021 - Inmarsat, the world leader in global, mobile satellite communications is working on a UK Space Agency-funded test project with the European Space Agency, alongside British partners Goonhilly Earth Station Limited and GMVNSL Limited, to deliver the first UK-generated satellite navigation (satnav) signal. The project provides a potential platform for the UK to enhance its capabilities in the Positioning, Navigation and Timing (PNT) domain post-Brexit. Repurposing a transponder from the Inmarsat-3 F5 (I-3 F5) satellite, the test project – UK Space Based Augmentation System or UKSBAS – will provide an overlay signal to augment the United States Global Positioning System (US GPS) satellite navigation system. This can refine the precision of the signal from a few metres to a few centimetres in accuracy. UKSBAS will provide a basis to assess its future development into an operational capability to support safety-critical applications such as aircraft approaching and landing at airports or navigating ships through narrow channels, especially at night and in poor weather conditions. Goonhilly will provide the uplink for the system from Cornwall and software from GMVNSL, based in Nottingham, will generate the ground-based navigation signal. This is a similar system to that already in use in Australia and New Zealand, supported by Inmarsat. UKSBAS will be the first UK-generated national satnav signal. This project could be crucial for UK users who need accurate, high-integrity navigation capabilities to enable their operations, initially covering aviation and maritime operations but with potential extension into rail and other land vehicle applications. For example, UKSBAS will be International Civil Aviation Organization (ICAO) standards-compliant.

CGI Supports OneWeb to Help Optimize Management of its Satellite Constellation

December 7, 2021 - CGI designed and delivered a mission network management software system to

support OneWeb, the low Earth orbit satellite communications company enabling connectivity for governments, businesses and communities in the optimization, configuration and operations of its satellite fleet and ground stations. The software system, delivered by CGI teams in the UK and Canada, is a core part of the overall OneWeb ecosystem, which enables high-speed low-latency connectivity anywhere on land, at sea and in the air. OneWeb aims to deliver coverage above 50 degrees north by the end of 2021, starting the work to bridge a long-standing connectivity gap and building secure communications capability for its business and government customers. CGI has supported OneWeb since 2017, enabling the critical Mission Planning and Network Control software for their ongoing launch program to build a 650-strong fleet of Low Earth Orbit (LEO) satellites and 40 ground-stations. CGI developed bespoke software using both agile and waterfall methodologies and integrated best-of-breed COTS products into a CGI secure private cloud, while delivering a 24/7 managed security service to enable OneWeb to control its satellite communications network. The CGI systems optimize the communications capacity available to users while complying with regulatory, technological, environmental, operational and inventory constraints, all of which will change on a second-by-second basis for each of the 650 active satellites and 9,000+ beams as they move across the Earth's surface at around 7 kilometers per second.

SES Government Solutions Releases New Unified Operational Network

December 6, 2021 - SES Government Solutions announced its new Common Operational Picture (COP) platform, Hydra, built exclusively to serve the U.S. Government and military. Managed and operated in-house, Hydra is a modular web-based monitoring and control system that provides end-to-end situational awareness in a single unified operational network platform. Hydra collects, normalizes, and organizes data from different sources based on the mission or customer and distributes the information to the appropriate dashboard providing an interactive user interface of consumable data in a single pane. Built on a cloud-native and micro-services architecture, Hydra is secure by design and incorporates the latest security and data processing technologies, ensuring mission assurance for government and military users. The SES Government Terrestrial Network (GTN) is the foundation of this platform built to synchronize operations across major global teleports, points of presence, and U.S. Government datacenters. The network integrates with Hydra providing complete visibility and management capabilities to the customer and SES GS' Network Operations Center (NOC) to optimize end-to-end system performance.

Avanti and ESA Accelerate Adoption of 5G with Pioneering INSTANT5G Project

December 6, 2021 - Avanti Communications announced the launch of INSTANT5G, a new research project endorsed by the European Space Agency (ESA), UK Space Agency and the Romanian Space Agency. The 5G via INtegrated Satellite and Terrestrial CommuNicaTion (INSTANT5G) project aims to extend 5G coverage for Mobile Network Operators (MNOs) and Tower Companies (Towercos) via integrated satellite and terrestrial communication. This will allow the addition of managed 5G services on top of existing cellular services. As demand for greater reliability and data speed rises, the satcom industry is investing heavily in R&D to ensure the seamless integration of 5G platforms with network virtualisation. INSTANT5G will define and develop a software-based platform that will enable the convergence of satcom and mobile networks to aid 5G satellite connectivity services. INSTANT5G will create, trial and validate novel technologies, to deliver a software platform that virtualises resource and enables zero-touch service management of 5G satellite connections. This hybrid satellite-terrestrial network will help address the operational challenges that MNOs and Towercos face, and reduce the digital divide in regions like Africa, where inequalities are particularly prominent. By removing integration complexities and high TCOs, the platform will enable satcom-5G convergence and seamless E2E network management across both terrestrial and satellite links. Avanti and the ESA are leading the INSTANT5G project, with support from academics and experts from the University of Surrey, CGI and LASTING software. Trials across Africa and Europe are planned to take place from 2023.

Safran Enters into Exclusive Discussions to Acquire Orolia, a World Leader in Resilient Positioning, Navigation and Timing

December 6, 2021 - Safran has entered into exclusive discussions to acquire Orolia from Eurazeo. Orolia is one of the world leaders in Resilient Positioning, Navigation and Timing (PNT) solutions that improve the reliability, performance and safety of critical civilian, military and space operations, including in harsh or altered Global Navigation Satellite System (GNSS) environments. Safran is an international high-technology group, operating in the aviation (propulsion, equipment and interiors), defense and space markets. The company recently announced that it has entered into exclusive discussions to acquire Orolia from Eurazeo. Orolia has a broad portfolio of technologies across the Resilient PNT value-chain with full system capabilities and is a provider of PNT equipment, simulation and test solutions. Orolia is also providing emergency locator beacons for commercial aviation and military applications. The acquisition represents a unique opportunity for Safran and Orolia to extend their Resilient PNT solutions globally. With this addition, Safran will be able to build a world-leading position in all aspects of PNT, inertial navigation, time and GNSS receivers and simulators, covering aerospace, governmental and high integrity applications.

U.S. Army Tests Multi-Orbit Solutions Leveraging MEO Capabilities amid SES's Upcoming O3b mPOWER Launch

December 7, 2021 - SES Government Solutions supports the U.S. Army in conducting a series of cutting-edge trials and testing of commercial satellite constellations in multiple orbits, as well as services and ground terminals, in the U.S. Government's effort to establish Multi-Domain Operations (MDO) by 2028. Most recently, the U.S. Army announced its integrated ground terminal, Phoenix E-Model, would serve Expeditionary Signal Battalion - Enhanced (ESB-E) formations with the likelihood of expanding operations from traditional Geostationary Earth Orbit (GEO) satellites to leveraging commercial Medium Earth Orbit (MEO) constellations. In this framework, SES GS, in close cooperation with Lite Coms, carried out extensive work to update the legacy US Army Phoenix Terminal to be MEO capable (AN/TSC-156(E) for the U.S. Army. The resultant Lite Sat 2.2A terminal delivers 50Mbps on a Wideband Global SATCOM (WGS) GEO network and up to 600x600 Mbps on SES's O3b MEO system. Leveraging MEO satellite technologies provides the modern warfighter the resiliency, high- bandwidth, and low-latency required for mission assurance in contested environments against advanced adversaries.

SKY Perfect JSAT Establish New Singapore Branch

December 3, 2021 - A new Singapore Branch will be established to strengthen business development in Asia in Space Business Unit. Asia Regional Headquarters, which controls the three Asian bases, will be newly established in Global Business Group, and Hong Kong Branch, Jakarta Representative Office, and Singapore Branch will be located under it. Also, Kenichi Shimotsuma was appointed as General Manager, Asia Regional Headquarters and Singapore Branch effective date of January 1, 2022.

Eutelsat and Vodacom Partner to Bring High-Speed Broadband to Unserved Regions of Tanzania

December 2, 2021 - Eutelsat Communications and Vodacom Tanzania PLC have signed a service agreement for packaged services to bring connectivity to underserved regions of Tanzania, leveraging Eutelsat's EUTELSAT KONNECT high-throughput satellite. Following a successful Proof of Concept trial, Vodacom will commercialize services on the EUTELSAT KONNECT satellite under its own brand, building out its service offer to customers previously unreachable by its existing infrastructure, notably in the B2B and hospitality verticals. Installation services will be undertaken by Konnect Africa on behalf of Vodacom. Founded in 2000, Vodacom Tanzania, part of the UK's Vodafone Group, is Tanzania's leading telecommunications company providing a wide range of services for consumers and enterprise including voice, data, messaging, financial services and enterprise solutions and counting over 15 million customers. Vodacom Tanzania PLC's strategy incorporates inclusion for all while bridging the digital divide gap. As a result, this partnership means a lot to Vodacom, as it will serve people who have been without connection since independence. In service since end 2020,

EUTELSAT KONNECT is a new-generation High Throughput Satellite offering unprecedented operational flexibility. Delivering significant resources for broadband services with quasi-complete coverage of Sub-Saharan Africa, it addresses direct-to-user consumer and enterprise broadband services.

Comtech Awarded \$1.2 Million Follow-on Order for Ka-band Airborne SSPA/BUC

December 2, 2021 - Comtech Telecommunications Corp. was awarded a follow-on order valued at \$1.2 million for its Ka-band Solid-State Power Amplifiers (SSPAs) that use state-of-the-art Gallium Nitride (“GaN”) technology for an In-Flight Connectivity (IFC) application. Comtech’s Falcon 50Ka GaN amplifiers feature a tri-band Block Upconverter (BUC) and are packaged in ARINC 791 compliant housings. Comtech’s Falcon product line encompasses Ku and Ka frequency bands and offers high linear power with excellent gain flatness and phase noise performance to support the latest waveform technologies and networks. The Ka-band Falcons implement multi-sub-band switching, gain adjustment and equalization, and cooperative system calibration support such as Open BMIP.

Optus 5G Takes to the Track in Bathurst with Walkinshaw Andretti United and AWS

December 2, 2021 - Lead driver from Walkinshaw Andretti United (WAU), Chaz Mostert took to a different kind of racing track this morning at Bathurst, testing his driving dexterity behind the wheel of a mini race car at the WAU Super-Fast 5 e-racing event. Open to all Bathurst 1000 attendees, the mini track located at Mount Panorama has been kitted out with Amazon Web Services (AWS) DeepRacer vehicles running over Optus’ super-fast 5G network and 5G standalone technology. These cars are 1/18th the size of the V8 cars on the track at Bathurst, but thanks to the low latency, high bandwidth, and speed of Optus 5G, they are incredibly responsive as they race around the track. Chaz Mostert was the first one to put his driving skills in action ahead of Saturday’s Bathurst 1000 race, where he attempted to set the record for the fastest lap time in the WAU Super-Fast 5 e-racing event. The ultra-responsiveness of Optus 5G standalone technology will enable racegoers to master every thrilling twist and turn of the WAU Super-Fast 5 track. Participants will put their driving prowess to the test, battling it out for pole position over five laps and controlling the cars remotely using real-time vision from cameras mounted on the vehicle.

Kymeta and OneWeb Partner to Develop Flat Panel User Terminal for LEO Network

December 1, 2021 - Kymeta and OneWeb announced a joint development agreement (JDA) to develop an innovative flat panel electronically steered user terminal that is compatible with the OneWeb network to support land fixed applications and leading the way to various mobility applications like land mobile, maritime, and other mobility needs of the future. The Kymeta™ u8 flat panel antenna technology provides an innovative solution to interoperate with the OneWeb LEO satellite constellation that supports Communication on the Pause (COTP) and future Communications on the Move (COTM) for military, government, first responder, maritime, enterprise and other commercial customers. The Kymeta u8 based terminal will provide the benefits of interoperability between GEO and OneWeb LEO services to strengthen the reach of the terminal solutions. Under the new JDA, engineering teams from both OneWeb and Kymeta will collaborate to ensure the terminal meets the technical specifications required for compatibility with the OneWeb network. The announcement comes just months after Kymeta and OneWeb previously collaborated on a pilot program to successfully test and demonstrate a LEO-GEO capable land flat panel user terminal in Toulouse, France which generated a great deal of interest from customers. The two companies aim to launch their new solution into the market for purchase by the third quarter of 2022.

AWS and OSTIn Sign Statement of Strategic Intent to Expand Singapore’s Emerging Space and Technology Environment

December 1, 2021 - Singapore’s national space office, the Office for Space Technology and Industry (OSTIn), and Amazon Web Services (AWS) have signed a Statement of Strategic Intent and Cooperation. This Statement is the first of its kind for AWS in Asia, and will help support Singapore’s

focus on space as a potential new industry for economic growth and technology development. Singapore has an emerging space and technology ecosystem. This includes the academia, startups, and other industry groups, carrying out a wide range of space activities, from the design and manufacture of satellites and related components to the provision of satellite-based services. OSTIn works closely with research institutes, industry, and fellow government agencies to build relevant space capabilities to support this growth. The Statement between AWS and OSTIn outlines specific areas of collaboration designed to foster the development of space technologies and support the creation of a vibrant, sustainable, and innovative space hub in Singapore. AWS will support Singapore's efforts in developing the space industry by providing resources to support businesses with AWS credits, educate and train talent, and enable the development of innovative new products and services in the space industry. This is in line with Singapore's move towards an innovation-led economy. Space technologies have the potential to support national priorities in aviation, maritime, climate, and the environment, and inspire future generations to pursue a career in the science, technology, engineering, and mathematics (STEM) fields. AWS and OSTIn plan to share more details on the specific initiatives to support this collaboration to accelerate space innovation in Singapore in early 2022.

Turbidite and AsiaSat Announce Partnership in Hosting Services Utilising Satellite and Ground-based Connectivity

December 1, 2021 - Turbidite Limited ("Turbidite"), Asia's newest edge data center platform and Asia Satellite Telecommunications Company Limited ("AsiaSat"), the region's premier satellite solutions provider, today announced a partnership that will leverage AsiaSat's existing satellite and ground infrastructure with Turbidite's dynamic edge data center platform to support the accelerated demand for digital services. The partnership will bring together the expertise and skills of the two companies to provide hosting services alongside satellite and ground-based connectivity from AsiaSat's Tai Po Earth Station. AsiaSat has been awarded ISO/IEC 27001: 2013 Information Security Management System Certification for its hosting services provided from Tai Po Earth Station in Hong Kong.

SatixFy to Deliver Advanced Modems for Global Telesat Lightspeed Terrestrial Network

December 1, 2021 - Telesat and SatixFy announced an agreement to deploy SatixFy baseband modem equipment for Telesat Lightspeed gateway earth stations throughout the world. The SatixFy advanced Sx3099 landing station modems will be capable of processing up to 1.6 GHz of bandwidth in each direction, supporting 10 wideband carriers, uplink power control (UPC) and adaptive coding and modulation (ACM), and network data processing. Each landing station antenna will be capable of transmitting approximately 12 Gbps on the forward link and receiving approximately 6 Gbps on the return link. This manufacturing agreement follows a previously announced early access program to validate and qualify the Sx3099 modem ASIC for use in the Telesat Lightspeed ground infrastructure. Capabilities validated during the early access program include simultaneous high throughput transmit and receive performance, and passing end-to-end traffic between the Sx3099 Ethernet ports and the RF interface using multicarrier operations over the DVB-S2X air interface.

Spire Global, Inc. Completes Acquisition of exactEarth Ltd.

December 1, 2021 - Spire Global, Inc., a leading provider of space-based data, analytics and space services, announced today it has successfully completed its previously announced acquisition of exactEarth Ltd., a leading provider of global maritime vessel data for ship tracking and maritime situational awareness solutions, by way of a plan of arrangement, following the completion of all closing conditions. exactEarth is now a fully-owned subsidiary of Spire and will continue to operate from Cambridge, Ontario, Canada under the leadership of Mr. Mabson, reporting directly to Mr. Platzer. As such, exactEarth will submit an application to cease to be a reporting issuer under applicable Canadian securities laws and to otherwise terminate exactEarth's public reporting requirements.

SES Completes C-band Transition Months ahead of Schedule with Harmonic's XOS Edge Software

December 13, 2021 - Harmonic has announced that it has successfully completed technology upgrades associated with SES's Phase 1 transition plan for C-band spectrum in just nine months. This was accomplished utilizing Harmonic's XOS Edge software-based solution for satellite media processing and edge delivery. Harmonic's XOS Edge media processing solution, integrated with encryption from NAGRA, enables satellite delivery networks to seamlessly distribute video services with optimized bandwidth and improved quality utilizing the inherent flexibility of software. The project ensures a seamless transition for Comcast Technology Services (CTS) and its Managed Satellite Distribution affiliates.

USSI Global Helps SES Successfully Complete Phase I of The C-Band Transition

December 6, 2021 - USSI Global, a turnkey provider of customized broadcast, network, and digital signage services worldwide, announces that it has supported SES, the leader in global content connectivity solutions, in successfully completing all Phase I accelerated C-band clearing and relocation activities. SES is seeking to clear 280 MHz of the C-band spectrum to help meet the U.S. Federal Communications Commission's (FCC) objective to quickly roll out 5G services across the United States. Phase I required SES to relocate all of its existing services that are received by Incumbent Earth Stations out of the 3700-3820 MHz band. USSI Global made the necessary equipment changes on all associated Incumbent Earth Stations. SES selected USSI Global as the primary vendor to help manage and execute the transition of Incumbent Earth Station filtering to mitigate risks of 5G interference. USSI Global served as the lead project management firm and was responsible for outreach, IT systems integration, field support management and status reporting. The initial outreach phase was especially valuable, requiring intensive advance research to gather and ascertain site-specific details of the Incumbent Earth Stations. USSI Global field technicians later provided turnkey systems design, procurement, installation and commissioning of 5G filters and antennas, among other key hardware components. To meet the FCC's ambitious Phase I accelerated relocation deadline of Dec. 5, 2021, SES established a goal of clearing greater than 700 Phase I sites by Aug. 31, 2021. USSI Global helped SES successfully meet that goal by supporting approximately 600 Phase 1 Incumbent Earth Station site transitions. The FCC validated SES's Phase I certification on Nov. 24, 2021. By meeting this critical deadline, USSI Global ensured SES was eligible for the first accelerated relocation payment.

A1 Telekom Austria Group and BBC Studios Announce to Strengthen Cooperation in the CEE Region

December 1, 2021 - The Wholesale team of A1 Telekom Austria Group and BBC Studios announced that they will strengthen the existing partnership. In addition to the extension of the distribution agreements for the existing BBC Earth and BBC First channels on the A1 Pay-TV platforms until 2025, the companies have established a technical partnership. Due to the extended collaboration, A1 Group's Broadcasting division will provide technical satellite services for premium drama channel BBC First in the CEE region (excluding Poland), delivering BBC First channel to cable, IPTV and DTH operators channel within the wide footprint of the Eutelsat 16A satellite. A1 acts as technical distribution and contribution partner of numerous TV channels in European, Asian and American markets, providing variety of services – playout, delivery via IP, fiber and/or satellite (Eutelsat 16A and Eutelsat 9B for Europe; APSTAR-9 for Asia and SES-6 for the US region). In the framework of the new agreement, the BBC Earth channel's footprint will be extended in the region. Previously available via A1 in North Macedonia (A1 Macedonia) and Slovenia (A1 Slovenia), the channel – renowned for delivering world-class factual and popular science content – will now be available also in Croatia (A1 Croatia). The agreement will also see an enhanced SVOD offering from BBC Studios on A1's platforms.

PLD Space Closes a Series B Investment Round of \$28 Million

January 2, 2021 - PLD Space has just closed a Series B funding round of \$28 million. The operation, led by Arcano Partners, Aciturri and the Centre for the Development of Industrial Technology (CDTI) through the co-investment initiative of Innvierte program, has had the accompaniment of previous company shareholders, who have been able to strengthen their participation, and the entry of new strategic financial partners. ArcanoBlueBull, Arcano's specialized Tech M&A division, in addition to strengthening its investment through its IMASDE fund, has served as financial advisor to the round. This operation, which brings the total capital raised by PLD Space to more than \$50 million, will allow the company to advance in its upcoming milestones of value: the launch of its MIURA 1 suborbital rocket at the end of 2022 from El Arenosillo (Huelva), MIURA 5 orbital vehicle manufacturing and its launch in 2024 from French Guiana. Strategic advances involve the expansion of the company's productive capacities, as well as its human team. In fact, the firm expects to increase its workforce up to 200 employees in 2022 and triple its size in the next three years. With this financial operation, PLD Space closes the second tranche of Series B round in equity, oversubscribing its initial funding target. In this phase, the company has had the accompaniment of its current partners, especially Aciturri, reinforcing its position, as well as the entry of different financial partners.

Arianespace Successfully Placed 36 More OneWeb Satellites into Orbit

December 27, 2021 - On Monday, December 27, at Russia's Baikonur Cosmodrome, Soyuz flight ST37 lifted-off with 36 OneWeb satellites bringing, after this successful deployment, the size of the fleet in orbit to 394. Flight ST37 was the 63rd Soyuz mission carried out by Arianespace, the 37th with its Starsem affiliate, and the 12th mission for OneWeb. The mission lasted three hours and 45 minutes. The 36 satellites were deployed during nine separation sequences, at an altitude of 450 km. It was also the fifteenth successful launch operated by Arianespace's teams this year, bringing to 1,101 the total number of spacecraft orbited since the start of the company's operations. Today's launch, Arianespace's 12th for OneWeb, also was the first time Soyuz delivered 36 satellites – instead of the usual 34 – from the Baikonour Cosmodrome. This improvement of the efficiency of the flight itself will allow Arianespace to better and more quickly serve the needs of OneWeb. To obtain this result, the team worked to improve every step in the plan: from the manufacturing process to launch vehicle integration and mission programming. OneWeb's mission is to create a global connectivity platform through a next-generation satellite constellation in Low Earth Orbit. The OneWeb constellation will deliver high-speed, low-latency connectivity to a wide range of customer sectors, including aviation, maritime, enterprise and government. Central to its purpose, OneWeb seeks to bring connectivity to the hardest to reach places, where fiber cannot reach, and thereby bridge the digital divide.

Ariane 5 Goes Down in History with Successful Launch of Webb

December 25, 2021 - On Saturday, December 25, 2021 at 9:20 am local time, an Ariane 5 rocket lifted off from the Guiana Space Center, Europe's Spaceport in Kourou, French Guiana (South America), injecting the Webb Space Telescope, developed by NASA in partnership with ESA and the Canadian Space Agency (CSA), into its transfer orbit. The telescope was successfully separated from the launcher 27 minutes after liftoff. The telescope now embarks on a voyage lasting 29 days to reach the second Lagrange point. The space agencies of the United States (NASA), Europe (ESA) and Canada (CSA) teamed up to develop this telescope. Europe played an important role in this mission, with ESA providing the launch onboard Ariane 5, as well as the Nirspec spectrometer built by Airbus. The astrophysics department of the Saclay-based CEA (French Alternative Energies and Atomic Energy Commission) and the Paris Observatory designed the MIRI camera. This is the most ambitious telescope ever sent into space.

Inmarsat's First I-6 Satellite Successfully Delivered to Target Orbit by Mitsubishi Heavy Industries

December 23, 2021 - Inmarsat and Mitsubishi Heavy Industries, Ltd (MHI) announced the successful

launch of Inmarsat's first satellite in the Inmarsat-6 series (I-6 F1) by MHI's H-IIA Launch Vehicle No. 45 (H-IIA F45). H-IIA F45, the latest example of Japan's H-IIA flagship launch vehicle series, followed the planned trajectory, and the successful separation of I-6 F1 from H-IIA F45 was confirmed about 26 minutes after lift-off. Inmarsat's sixth-generation (I-6) satellites will be the company's first to host dual-payloads, utilising different frequency bands. The I-6s will support L-band (ELERA) and Ka-band (Global Xpress) services as part of the company's unique, global, multi-dimensional, dynamic mesh network ORCHESTRA. I-6 F1 was manufactured by Airbus Defence and Space and is the most sophisticated commercial communications satellite ever launched. The H-IIA is Japan's flagship launch vehicle and one of the most reliable in the world. MHI provides its launch services with the H-IIA launch vehicle, which, with the success of H-IIA F45, has achieved a success rate of 97.8%, and a cumulative success rate of 98.1% including H-IIA and H-IIB. MHI is committed to providing secure delivery of a customer's satellite on the planned date with high reliability so that customers can commence their business operations as planned.

Maxar Extends Agreements with Three International Defense and Intelligence Customers, Securing Second WorldView Legion Commitment

December 22, 2021 - Maxar Technologies announced contract extensions with three long-standing international defense and intelligence customers. The three agreements total more than \$100 million and extend these customers' ability to directly task and download 30 cm-class satellite imagery to their ground stations from Maxar's current constellation under Maxar's Direct Access Program. This program enables defense, intelligence and commercial customers to access the world's most advanced Earth imaging satellites, with encrypted downlinks, committed availability and data distribution rights that fit mission needs. One of the contracts provides a commitment to purchase direct access to Maxar's next-generation WorldView Legion satellites, the first of which are expected to launch between May 15-June 13, 2022. This is the company's second commitment for WorldView Legion capacity.

Virgin Orbit and Arqit Expand Launch Agreements

December 22, 2021 - Virgin Orbit has signed a new launch contract covering two dedicated launches for Arqit Quantum, Inc. plus additional commitments. The two Arqit satellites delivered to Earth orbit by Virgin Orbit's LauncherOne air-launched system will be the core component of Arqit's Platform-as-a-Service, delivering the root source of randomness to all Arqit data centres using Arqit's ground breaking Quantum protocol ARQ19. Arqit and Virgin Orbit are collaborating on responsive space initiatives serving the nations of the Five Eyes (FVEY) international intelligence alliance, comprising of Australia, Canada, New Zealand, the United Kingdom, and the United States. Arqit announced in September at the G7 conference the creation of a program called "Federated Quantum System." This is a private instance of Arqit's QuantumCloud™ technology that allied defense departments requiring sovereign control over mission critical encryption can purchase from Arqit. These long-term, high-value subscription contracts involve Arqit's supply of ring-fenced dedicated systems. Arqit has committed to launch such additional customer funded systems exclusively with Virgin Orbit, and that contract allows for up to five launches that will be realized as anticipated government contracts move forward to utilize Arqit's services. The parties are also pleased to announce that the QuantumCloud™ Software License signed between the companies in parallel to the launch services agreement will also enable Virgin Orbit to use Arqit's world-leading platform to provide market-leading encryption to secure Virgin Orbit's global infrastructure. Thus Virgin Orbit becomes the world's first quantum safe launch services provider.

DEWA Signs Agreement with NanoAvionics to Provide Nanosatellites to Support the Digitalisation of Dubai's Power and Water Networks

December 22, 2021 - Dubai Electricity and Water Authority (DEWA) has selected NanoAvionics, a leading smallsat manufacturer and mission integrator company, to design, build, test, and manage the launching of two nanosatellites 3U and 6U. The services supplied by NanoAvionics also include

operation, knowledge transfer and training. This is part of DEWA's space-D programme that seeks to enhance operational efficiency and reliability, and promote preventive maintenance for the planning, generation, transmission and distribution of electricity and water networks. Through this programme, DEWA aims to lead the industry in improving the operations, maintenance and planning of its networks with the support of nanosatellite technology. Space-D supports DEWA's grid digitalisation programme by using Internet of Things (IoT) and remote sensing technologies. Also through this programme and the expertise of NanoAvionics, DEWA intends to enhance its flexibility and agility in monitoring and managing its electrical and water networks. With Space-D, DEWA expects to reduce costs, improve its asset utilisation and provide sustainable, efficient and reliable power and water services to its customers. In line with its digital transformation, DEWA will use a 3U satellite with an IoT payload as well as a 6U satellite with an earth observation (EO) payload from NanoAvionics. Using satellite network connectivity, IoT terminals, satellite imagery and applying AI to the captured data will bring greater efficiency and effectiveness to DEWA's operations, maintenance and planning. The agreement with NanoAvionics also includes launch management, construction of the ground station, and an extensive training programme for Emirati professionals to facilitate know-how transfer and support in expanding DEWA's future space capabilities.

Swedish Space Corporation to Establish a Highly Capable SSA Station in Australia

December 21, 2021 - At Western Australia Space Center, 400 kilometers north-east of Perth, Swedish Space Corporation (SSC) is about to install a new station capable of generating highly sophisticated SSA data for its future customers and partners. The new station is a part of SSC's Space Situational Awareness Program with the aim at contributing to both safer and more sustainable use of near-Earth space as number of objects keeps increasing at a rapid pace. The development of the station started in mid-2020. It features telescopes which will be remotely controlled from SSC head office in Solna in Stockholm, Sweden. These telescopes will be used for detecting and tracking satellites and space debris, collecting valuable information for the management of space traffic in orbit. The technology utilized in the station, including mount, telescopes and cameras, are specifically customized for space surveillance and tracking purposes. The new station is expected to be in operation by mid-2022.

SSTL Signs Contract with Satellite Vu for Mid Wave Infra-Red Satellite

December 16, 2021 - Surrey Satellite Technology Ltd (SSTL) has signed a contract with Satellite Vu for a Mid Wave Infra-Red (MWIR) thermal imaging satellite which will pave the way for a planned constellation of seven MWIR spacecraft. The constellation will have the ability to measure the heat signature of any building anywhere multiple times a day, enabling Satellite Vu to derive new insights in real time about building emissions, energy use and insulation. The contract was signed at SSTL in Guildford by Phil Brownnett, Managing Director of SSTL, and Anthony Baker, CEO of Satellite Vu. The first MWIR satellite, due for launch into low Earth orbit in Q4 2022, will be the pathfinder for London based Satellite Vu's planned constellation and will collect thermal data day and night about both the natural and the built environment.

mu Space Unveils \$4 Million Ultra-fast Internet Satellite

December 14, 2021 - Aerospace manufacturer and satellite internet service provider mu Space Corp, has just announced plans to manufacture up to 200 of its revolutionary MU-B200 satellites which are capable of providing ultra-fast 5Gbps internet speeds to remote locations. With a price tag of US\$4 million – less than half that of similar technology currently on the market – the MU-B200, is part of mu Space Corps' plans for rapid expansion in 2022. mu Space Corp is an aerospace manufacturer and satellite internet service provider redefining the aerospace landscape in Southeast Asia. The MU-B200 is a 200kg customizable satellite that focuses on delivering high power and accelerates performance. It comes equipped with a 1.2 kW high power system, which is further customizable to the client's needs. The price of the MU-B200 was confirmed as \$4 Million, with deliveries to be made within 12 months of order. The MU-B200's \$4 Million price tag is approximately half that of similar

products on the market, which range from around \$7 – \$10 million dollars. mu Space, through its own vertical integration methods, has managed to lower the price dramatically, while cutting the waiting time and hefty associated costs. By producing everything in-house, the company can lower cost prices, control quality each step of the way, and customize products as the process progresses. A vertically integrated strategy isn't solely advantageous to mu Space alone, but also their clients. It allows clients to trust that quality is being monitored closely in every process, on top of giving clients the freedom to customize the components to their specifications.

SatRevolution Secures Series B Funding from Virgin Orbit

December 14, 2021 - SatRevolution S.A. has secured Series B funding (the "Transaction") from Virgin Orbit, the US-based responsive launch and space solutions company that has announced a planned business combination with NextGen Acquisition Corp. II ("NextGen"). The Transaction values SatRev at approximately \$150 million, and will support SatRev's business development. The Transaction, signed today, follows a strategic partnership established by SatRev and Virgin Orbit in June this year under which both companies seek to develop business applications for the use of nanosatellites. SatRev has to date launched two satellites with Virgin Orbit as part of the LauncherOne Tubular Bells: Part One mission. Two more SatRev satellites are awaiting launch as part of Virgin Orbit's Above the Clouds mission launching next month. SatRev and Virgin Orbit plan to jointly offer up to 500kg of hosted payload services on LauncherOne rockets, turnkey solutions for rapid deployment of space services, and much more. SatRev nanosatellite technologies include the Stork medium-resolution earth observation platform and ScopeSat, a deployable high-resolution telescope with on-board processing capabilities. These technologies deliver near real-time and high-resolution earth observation capabilities.

MDA Announces CHORUS™ as the Name of its Next Commercial Earth Observation Mission

December 14, 2021 - MDA Ltd., a leading provider of advanced technology and services to the rapidly-expanding global space industry, announced that its next generation commercial Earth observation (EO) mission will be named CHORUS. The company also announced that CHORUS will initially include C-band and X-band Synthetic Aperture Radar (SAR) satellites. A collaborative multi-sensor constellation, CHORUS will bring together multiple diverse and unique perspectives in harmony, opening the aperture and the art of the possible to provide a new level of real-time insight about our planet. CHORUS builds on the strong heritage of the RADARSAT program and brings forward innovative new technologies and operations concepts to deliver a significantly enhanced capability. The powerful C-band SAR satellite will provide broad area coverage in concert with a smaller trailing X-band SAR satellite for higher resolution data collection and Near Real-Time (NRT) cross-cueing day or night and in all weather conditions. The X-band satellite will fly in the same mid-inclination orbit with the identical ground track as the MDA-built C-band SAR satellite. By collecting and integrating data from the individual satellites, CHORUS will provide the most extensive radar imaging capacity available on the market in one system, ranging from industry leading broad area coverage with a 700km-wide swath to sub-metre very high resolution spotlight images.

SSC and SatRevolution to Launch Earth Observation Constellation from ESRANGE

December 13, 2021 - Swedish Space Corporation (SSC) and the Polish space company SatRevolution have signed an agreement to launch SatRevolution's STORK Earth observation satellite constellation into LEO from ESRANGE Space Center in Sweden, and subsequent constellation operation management. The agreement also includes cooperation on developing services using SSC's Earth Observation data analytics capabilities through its subsidiary, GlobalTrust. Through the new 5-year agreement, SatRevolution moves closer to a quick realization of its strategic goals for the construction of an Earth observation constellation. The nanosatellites of the Wrocław-based company will provide imagery data for a variety of applications on Earth – such as precision agriculture, infrastructure monitoring, including energy infrastructure, logistics and transport, as well as industries related to environmental monitoring.

Rocket Lab to Acquire SolAero Holdings, Inc., a Global Leader in Space Solar Power Products

December 13, 2021 - Rocket Lab USA, Inc. has signed a definitive agreement to acquire SolAero Holdings, Inc. (SolAero), a premier supplier of space solar power products and precision aerospace structures for the global aerospace market, for \$80 million in cash. The acquisition is expected to close in the first quarter of 2022. The acquisition aligns with Rocket Lab's growth strategy of vertical integration to deliver a comprehensive space solution that spans spacecraft manufacture, satellite subsystems, flight software, ground operations, and launch. As one of only two companies producing high-efficiency, space-grade solar cells in the United States, SolAero's space solar cells are among the highest performing in the world, and support civil space exploration, science, defense and intelligence, and commercial markets. In combining with Rocket Lab, SolAero will tap into the Company's resources and manufacturing capability to boost high-volume production, making high-performing space power technologies available at scale. The SolAero merger is Rocket Lab's third proposed acquisition announced this year, following the acquisition of space software company ASI Aerospace LLC in October 2021, and spacecraft separation systems company Planetary Systems Corporation, which was completed in December 2021.

GHGSat Confirms Launch of its Next Three Satellites with SpaceX

December 8, 2021 - GHGSat, the world leader in high-resolution remote sensing of greenhouse gas emissions, is building on its momentum to deploy a constellation of satellites in collaboration with the global technology leader ABB. GHGSat's next three satellites, GHGSat-C3, C4 and C5, will be launched into orbit in summer 2022 on a SpaceX Falcon 9 rocket as part of the Transporter-5 mission. GHGSat also announced that it has exercised a contract option with ABB to provide six more payloads for monitoring methane emissions as well as a payload to detect CO2 emissions. The payload for Luca has been transferred to the Space Flight Laboratory (SFL), the satellite provider and integrator. Payload integration is now complete, and all tests have been finalised. The payloads for Penny and Diako will be delivered to SFL in the coming weeks to undergo the same process later this December. The new satellites are based on the same design as GHGSat-C1 (Iris) and GHGSat-C2 (Hugo). However, several specific improvements are included to enhance data processing and communication capacity.

Synspective Signs Agreement to Launch Second SAR Satellite StriX-β- with Rocket Lab

December 8, 2021 - Synspective Inc., a SAR satellite data and analytic solution provider, has announced an agreement with the US-based launch services provider, Rocket Lab, to launch the second demonstration satellite StriX-β. The company also signed a contract for the launch of two more satellites in the StriX series following StriX-β by Rocket Lab. StriX-β was originally scheduled to be launched by Exolaunch's Soyuz-2 rocket in 2021, but due to a change in the launch schedule of the Soyuz-2 rocket, it will be launched by Rocket Lab's Electron rocket in early 2022. The launch date of our satellite on Exolaunch's Soyuz-2 rocket is currently under adjustment. StriX-β is the second demonstration satellite following StriX-α. It is aimed to demonstrate InSAR (Interferometric SAR) technology in orbit, a special SAR analytics technique to detect millimeter-level displacements on the ground surface using radar images of the Earth's surface. Synspective plans to launch six satellites by 2023 and aims to build a constellation of 30 by the late 2020s.

ULA Successfully Launches Critical National Security Mission Direct to GEO

December 7, 2021 - A United Launch Alliance (ULA) Atlas V rocket carrying the Space Test Program (STP)-3 mission for the U.S. Space Force's Space Systems Command lifted off on Dec. 7 at 5:19 a.m. EST from Space Launch Complex-41 at Cape Canaveral Space Force Station. To date ULA has launched 147 times with 100 percent mission success. STP-3 marked ULA's longest duration mission at seven hours and 10 minutes until spacecraft separation. The mission launched on an Atlas V 551 configuration rocket, that included a 5.4 meter payload fairing. The Atlas booster for this mission was powered by the RD AMROSS RD-180 engine. Aerojet Rocketdyne provided the RL10C-1 engine for the Centaur upper stage and Northrop Grumman provided the five Graphite Epoxy Motors (GEM) 63 solid rocket boosters. This was the 90th launch of the Atlas V rocket. ULA's next launch is the USSF-8

mission for the U.S. Space Force, planned for January 21, 2022, from Cape Canaveral Space Force Station, Fla.

Andesat and Astranis Sign Landmark Two-satellite Agreement to Expand Broadband Access in Peru

December 7, 2021 - Astranis has signed an agreement to provide broadband capacity with Astranis MicroGEO communications satellites to Grupo Andesat (Andesat), a cellular services backhaul provider that connects cell towers in Peru to the internet backbone, in a new partnership that will bring broadband internet access to thousands of rural communities across Peru for the first time. In a deal worth more than \$90 million, an initial Astranis satellite will launch into service in 2023 to become the first satellite in history dedicated solely to serving the people of Peru. The contract also features an option for a second satellite to create additional capacity in the future. These advanced MicroGEO satellites are 1/20 the size of traditional legacy satellites, and roughly 1/10 the cost, which will allow Andesat to upgrade cellular services from 2G to 4G, expand broadband internet access in remote areas of Peru, and increase its coverage footprint while dramatically lowering operator costs per cell site. Andesat is a trusted global player in telecom solutions and has broad reach across Latin America with teleports in multiple countries (Argentina, Chile, Ecuador and Peru) and prospective global capabilities. Andesat offers end-to-end services like cellular networks in rural areas, cellular backhaul, IoT solutions design and more. The company estimates that this partnership would allow roughly three million Peruvians, many in rural and otherwise remote areas, to access affordable 4G service on their mobile devices for the first time.

SSC Resumed Rocket Launches from Esrange

December 6, 2021 - Esrange Space Center in northern Sweden has resumed its rocket activities after the fire that damaged the launch site in late August. Today, only three months after the incident, a sounding rocket was once again launched from the base. Sounding rocket Mapheus-10, owned by the German Aerospace Center DLR, was successfully launched from the restored launch infrastructure at approximately 09.30 am on Monday, December 6. The onboard payload contained metals for various experiments including studies on solidification of alloy metals. The 1600 kg rocket reached an altitude of 250 kilometers and a speed of 2 kilometers per second. It stayed in microgravity for about six minutes.

Galileo Successfully Expands His Fleet with Arianespace

December 6, 2021 - On Saturday, December 4, at 09:19 p.m. local time, a Soyuz launcher lifted off from the CSG in Kourou, French Guiana, and successfully orbited two satellites built by OHB System: Galileo FOC-M9 (23-24), SAT 27-28, as a part of Europe's Galileo constellation. These two satellites are the 179th and 180th launched on behalf of European institutions. More precisely, it is the 61st mission launched by Arianespace for ESA and the 23rd and 24th FOC satellites launched by Arianespace for the European Commission. Operational since 2016, Galileo is the global navigation satellite system that is fully financed and owned by the European Union. Under civilian control, it offers high-precision positioning, navigation and timing services to more than 2,3 billion users worldwide. Undertaken by a European partnership, the European Commission manages Galileo, with European Space Agency (ESA) as the design authority overseeing its development, procuring satellites and the ground segment, and the European Union Agency for the Space Programme (EUSPA) overseeing Galileo operations and service provision. The medium-lift Soyuz (produced by Progress Space Rocket Center, part of the Russian space agency Roscosmos) entered service from Europe's Spaceport in French Guiana in October 2011, bringing the industry's longest-operating launcher to the world's most modern launch base. Soyuz is a four-stage launcher, designed with extremely high reliability requirements for its use in manned missions. This flight will also mark 10 years of Soyuz operations in French Guiana and its 26th mission for the European Spaceport.

Terran Orbital Delivers Small Satellite into Operational Orbit for EchoStar

December 6, 2021 - Terran Orbital Corporation announced the successful stationing of the EchoStar

Global 3 small satellite into its final operational orbit. Tyvak Nano-Satellite Systems, Inc. (Tyvak), a subsidiary of Terran Orbital, designed, manufactured, and operates the satellite on behalf of EchoStar Corporation. This successful orbit placement is a premiere example of the innovation and flexibility of small satellites like the EchoStar Global 3. The stationing trajectory included the furthest and most rapid altitude change ever accomplished by a nanosatellite. It also included a 1.5-degree inclination change to place the satellite at the exact altitude and inclination required for its mission.

NASA Selects Orbital Reef to Develop Space Station Replacement

December 2, 2021 - Orbital Reef, led by partners Blue Origin and Sierra Space, was selected today by NASA for a funded Space Act Agreement for collaboration to design a commercially owned and operated space station in low Earth orbit (LEO). NASA's Commercial LEO Development program aims to shift NASA's research and exploration activities in LEO to commercial space stations, helping stimulate a growing space economy before the International Space Station is retired. The Orbital Reef team includes Boeing, Redwire Space, Genesis Engineering Solutions, and Arizona State University. The industry team brings together all the expertise to develop, integrate, and operate Orbital Reef's transportation and destination systems and services. Blue Origin leads development of the station's infrastructure, large-diameter metal modules, last-mile space tug, and reusable heavy-lift New Glenn launch system. Sierra Space leads development of the LIFE (Large Integrated Flexible Environment) and small-diameter metal node modules, and Dream Chaser spaceplane for crew and cargo transportation with runway landing anywhere in the world. Boeing leads development of the station's operations and maintenance and science module, and Starliner crew capsule. Redwire Space leads microgravity research payload development and operations, large deployable structures, and the Orbital Reef digital twin. Genesis Engineering Solutions develops the Single Person Spacecraft for routine operations and tourist excursions. Arizona State University leads the University Advisory Group, a global consortium of universities for research advisory services and public outreach. Orbital Reef's vision is to provide an "address in orbit" for anyone. Early customers may include NASA, its traditional ISS partners, and non-traditional governments and agencies needing easier access to space. The station will grow as markets grow, including commercial industries such as research and manufacturing, media and entertainment, sports and gaming, and adventure travel and tourism.

Space BD to Offer Global Launch Opportunities

December 1, 2021 - Space BD announces that in the launch service business, one of its core businesses, Space BD starts handling global launch methods in addition to the traditional Japanese launch methods. As the first launch, Space BD has reserved space aboard a SpaceX Falcon 9 rideshare mission scheduled for October 2022. The company aims to respond to the rapidly increasing demands which are also diversifying and provide optimum solutions to access to space for every user by expanding the variety of launch methods. Space BD is a space business development firm with abundant technological and business development capabilities. It has provided the business solutions or projects and access to space for the users by utilizing JAXA's space assets such as the International Space Station (ISS) Japanese Experiment Module Kibo, next generation Japanese flagship launch vehicle H3, and next ISS resupply vehicle HTV-X. In the scope of satellite launch service, it has provided launch opportunities to satellite developers since 2018. The satellite deployment from ISS Kibo has remarked a hundred percent success rate. As a result, its high reliability has contributed to global users' first launch, such as Australian universities and Japanese startups. Space BD offers more flexible launch opportunities to meet the needs that are getting diversified and adjust the changes. In addition to the reliable Japanese launch opportunities, Space BD will offer more flexible launches, including the timing, satellite sizes, and the desired orbit, by handling global launch methods.

Gilat Names Gil Benyamini as Chief Financial Officer

December 31, 2021 - Gilat Satellite Networks announced that the board of directors approved the appointment of Gil Benyamini as Gilat's CFO effective February 1st, 2022. Bosmat Halpern will assist the Company in the transition as she steps down from her role as Gilat's CFO. Gil Benyamini joins Gilat with a wealth of experience most recently from Panaxia Pharmaceutical Industries (TASE:PNAX), where he served for the past four years as CFO. In this position he was part of the core management team successfully leading the company RTO into TASE and its equity and debt financing. Previously Mr. Benyamini held the CFO role at Walla Communications from 2009 until 2016 and at Exent Technologies from 2006 until 2009. Mr. Benyamini is a Certified Public Accountant and holds an MBA (major in finance) cum laude from Tel-Aviv University.

Eva Berneke Appointed Chief Executive Officer of Eutelsat

December 19, 2021 - The Board of Directors of Eutelsat Communications announced the appointment of Eva Berneke as Chief Executive Officer, with effect from 1st January 2022. She will also be co-opted as a member of Board. Eva brings considerable experience of the Telecoms and Technology industries. She joins Eutelsat from KMD, Denmark's leading IT and software company, specialising in IT solutions and services for the public and private sector, and now part of the NEC Group. During her tenure she oversaw the transformation of KMD from a mainly government service provider to a modern, digital company competing in both the public and private sectors. Prior to that Eva held several senior positions at TDC, formerly TeleDanmark, the largest telecommunications company in Denmark, notably as Head of Strategy and Head of the company's Wholesale Business division. Eva began her career at McKinsey where she developed a specialization in the TMT sectors and where she was based for 10 years at the group's Paris offices.

Astroscale Names Nobuhiro Matsuyama as CFO

December 16, 2021 - Astroscale Holdings Inc., the market leader in satellite servicing and long-term orbital sustainability across all orbits, has announced the appointment of Nobuhiro Matsuyama "Matsu" as Chief Financial Officer, effective December 1, 2021. Matsuyama will work closely with the CEO and global management team to implement the company's strategy to achieve business expansion and profitable growth. He succeeds Atsuyuki Uenaka, who will serve as Chief Administrative Officer and continue to lead Astroscale's administrative functions and internal control processes. Matsuyama joins Astroscale with over 12 years' experience in global finance and banking. Prior to joining Astroscale, Matsuyama held a number of key positions in the Investment Banking Division of Goldman Sachs in Tokyo and New York. In these roles, he successfully advised global companies on strategic transactions including debt, equity and mergers and acquisitions. During his tenure at Goldman Sachs, he also acted as an investor, leading the sourcing and execution of multiple principal investments into Japanese startup companies.

Isotropic Systems Appoints Nigel Fox as Chief Finance Officer

December 13, 2021 - Isotropic Systems, the leading provider of transformational next-generation multi-link satellite terminals, today announced that Nigel Fox has been appointed as Chief Finance Officer, effective immediately. Mr Fox will lead Isotropic Systems' finance and corporate development activities in preparation for scaling into manufacturing, operations, and global service delivery of Isotropic Systems' ground-breaking technology. Formerly the CFO of Avanti Communications, Nigel's in-depth experience managing a new satellite business from infancy through to operational effectiveness will prove itself to be an invaluable benefit to Isotropic Systems as they continue to scale up and launch transformational new technology for satellite communications. In addition, Nigel has successfully completed three IPOs in his career and helped the organisational growth of both private and public businesses.

Comtech Welcomes Jennie Reilly as Vice President of Human Resources

December 6, 2021 - Comtech Telecommunications has announced the appointment of Jennie Reilly as Vice President of Human Resources, effective December 13, 2021. Reilly will oversee the execution of a company-wide HR talent strategy, and will report directly to incoming CEO Michael Porcelain. Jennie brings two decades of experience in advising leadership teams and guiding organizations through large-scale transformations and periods of accelerated growth, most recently at Piping Rock Health Products and TheraCare.

REPORTS

NSR Report Finds Satellite Ground Segment Growth of \$147B Cumulative Revenues by 2030

December 14, 2021 - NSR's newly released *Global Satellite Ground Segment, 6th Edition* report, finds strong post COVID-19 return to growth for the Ground Segment, illuminating a massive increase in upcoming satellite capacity supply. With a double-digit growth forecast, cumulative industry revenues reach \$147 Billion through decade. The report offers detailed discussion of the trends, business models, and technologies shaping the future of the ground equipment industry. With comprehensive appraisals of sector growth and challenges in five regions, the report forecasts market share for players in all key industry segments through the decade.

NSR Report: HTS Growth Pushes VSAT and Broadband Satellite Market to Require 15Tbps of Capacity by 2030

December 9, 2021 - NSR's newly released '*VSAT and Broadband Satellite Market, 20th Edition (VBSM20)*' finds HTS, a major market growth factor, moving the segment from 800Gbps in 2020 demand to 15Tbps in 2030. The market will hit cumulative revenues of US\$135.3 billion over the next decade, with a significant demand in evolving Consumer Broadband and Social Inclusion segment leading opportunities.

Euroconsult Report: New Satellite Market Forecast Anticipates 1,700 Satellites to be Launched On Average Per Year by 2030

December 8, 2021 - Euroconsult has released its "*Satellites to be Built & Launched*" report for 2021, the latest edition in a series that has consistently set the industry benchmark for analysis of the satellite market. The 17,000 satellites expected to be launched in the next ten years represents a fourfold increase over past decade, reflecting structural changes in the whole space ecosystem and a limited short-term impact of the pandemic.

NSR Report: Space Traffic Data Volumes Increase 14x Over the Next Ten Years

December 6, 2021 - NSR's newly released *Space Traffic Study* report finds that the amount of data to/from space will reach more than 500 exabytes of information from 2020 to 2030. Driven by the increasing needs for satellite-based connectivity and Earth Observation, data either generated in space or traveling through space will be roughly the equivalent of 3.9 Billion average capacity smartphones over the next ten years. While still a 'drop in the bucket' compared to terrestrial networks, space data volumes are expected to increase 14x over the next ten years.

UPCOMING EVENTS

APSCC 2022 Webinar Series, Virtual Event, <https://apccsat.com>
LIVE Tuesday 9 AM HK | Singapore Time

PTC'22, January 16-19, Honolulu, Hawaii, USA, <https://www.ptc.org/ptc22/>

After an unprecedented year, Pacific Telecommunications Council (PTC) is excited to invite you back to Oahu, the gathering place, to reunite with your peers in the industry, rethink new ways of working and collaborating, and renew yourself and your organization, in a hybrid event that is offered both in

person and online. Join us in Honolulu or online for *PTC'22: Reunite. Rethink. Renew.* PTC's Annual Conference is a strategic springboard for the global communications industry, providing all attendees with a four-day platform to focus on planning, networking, and discovering what lies ahead for the industry at the Pacific Rim's premier telecommunications event.

Smallsat Symposium 2022, February 8-10, Silicon Valley, CA, USA, <https://2022.smallsatshow.com/>

Global Space and Technology Convention, February 8-10, Singapore, <https://www.space.org.sg/gstc/>
With the space sector thriving and rapidly evolving, it is more vital than ever to stay connected and updated with the latest industry trends and developments. From market trends in Asia to space technology's role in sustainability efforts on earth, strategic conversations and technological innovations take centre stage here. Register to attend the 14th Global Space and Technology Convention (GSTC) on the 9 & 10 February 2022 at Sheraton Towers Singapore (In-Person event with livestream). **Members of APSCC enjoy a 20% off regular rates for the Virtual Delegate Passes when you apply the code DISCPWFT1.**

Satellite 2022, March 21-24, Washington DC, USA, <https://www.satshow.com>

SATELLITE is universally recognized as the world's most critical and inclusive social gathering of space and satellite thought leaders. Executives, engineers, government officials, and commercial customers convene at SATELLITE to solve global challenges, bridge the digital divide, increase access to space, cultivate new innovation and future leadership, collaborate on policy, and network with colleagues and peers. SATELLITE proudly invites industry leaders to share the same stage with young professionals and entrepreneurs and engage in discussions that will shape the future of commercial space. **USE VIP CODE: APSCC22**

Convergence India 2022, March 23-25, New Delhi, India, <http://www.convergenceindia.org>

EDITORIALS AND INQUIRIES

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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.