

APSCC Monthly e-Newsletter

April 2021

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

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

INSIDE APSCC

APSCC 2021 Webinar Series: LIVE Every Tuesday 9AM HKI Singapore Time

The most frequent and largest ongoing virtual conference in the Asia Pacific satellite community – the APSCC 2021 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 2021 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 2021 Webinar Series with a single password. To register go to <https://apscsat.com>.

Dr. Anggoro K. Widiawan and Nobuhito Takei Join APSCC Board of Directors

Dr. Anggoro K. Widiawan joined APSCC Board of Directors. Dr. Anggoro K. Widiawan is currently CTO of PT. Telkom Satelit Indonesia. Previously he was the Head of Telkom 3S project and the Head of Satellite Business & Technology Transformation in PT. Telkom Indonesia, Tbk. He holds PhD degree in Wireless Communications from the University of Surrey, United Kingdom. He has been in satellite industry for over 20 years. Also, Nobuhito Takei Joined APSCC Board of Directors. Nobuhito Takei is the General Manager of Global Business Division at SKY Perfect JSAT Corporation (SJC), a satellite operator with a fleet of 18 satellites. SJC provides reliable satellite services over Asia, Oceania, Russia, Middle East and North America, and also operates Japan's largest DTH platform, "Sky Perfect TV!" After graduating from Sophia University in 1996, he started his career at Space Communications Corporation, which later became SJC, and was engaged in Domestic Sales, Business Planning and Satellite Procurement. Prior to assuming his current role, he was the Team Manager responsible for marketing activities for US and EU customers.

SATELLITE BUSINESS

Comtech EF Data Expands Satellite Modem Product Line

March 31, 2021 - Comtech EF Data Corp., has introduced a new product, the CDM-650 Satellite Modem. The CDM-650 leverages the heritage and feature set of Comtech's SLM-5650B/C, CDM-625A and CDM-425 modems, which have been adopted and deployed globally to support government and commercial applications. The CDM-650 Satellite Modem was purpose-built for secure government and military networks. The CDM-650 is suited for fixed location, on-the-pause and on-the-move communications applications. The product features Turbo Product Codes, three Low Density Parity Check (LDPC) code families, VersaFEC[®]-2 high performance LDPC short and long block forward error correction and a range of modulation, including BPSK, QPSK, OQPSK, 8PSK, 8-QAM, and 16-QAM. By employing the combination of state-of-the-art forward error correction and modulation techniques, the CDM-650 can optimize satellite transponder bandwidth usage. In addition, Direct Sequence Spread Spectrum ("DSSS") is an option on the CDM-650 for supporting both point-to-point and point-to-multipoint applications in conjunction with LDPC-based forward error correction and BPSK. The combination of advanced features provides ultra-low power spectral densities, enabling the use of small antennas when adjacent satellite interference is an important consideration. The CDM-650 offers data rates from 18 kbps to 155 Mbps and symbol rates from 32 ksps to 64 Msps. The modem supports an Ethernet 10/100/1000T user traffic data interface that can be used in Bridge mode or Routed mode offering Quality of Service protocols and traffic shaping / congestion control methods. In addition, the modem supports backward compatibility and interoperability in certain modes of operation with Comtech's SLM-5650B/C, CDM-625A and CDM-425 modems.

Luxembourg Government and SES Launch Second Phase of Satellite-enabled SATMED Telemedicine Project

March 31, 2021 - The Luxembourg Government and SES's fully-owned affiliate SES Techcom launched the second phase of the SATMED telemedicine project that will run into 2024. Enabled by satellite, SATMED is designed to connect doctors and nurses based in remote locations to the outside medical world, providing access to the platform's cloud applications for e-training, virtual consultations, management and storage of medical data records, and video conferencing. Developed in Luxembourg, the platform has been deployed since 2014 in 10 locations across Africa and Asia in partnership with NGOs. Since the Ebola outbreak in 2014, it has helped improve healthcare in the countries like Niger, Philippines, Sierra Leone, Benin and Bangladesh, among others. Most recently, SATMED played a crucial role in supporting Covid-19 task forces, including in a remote hospital in Sierra Leone in close cooperation with the NGO German Doctors, and in floating hospitals in remote areas of Bangladesh via NGO Friendship. Since the start of the Covid-19 outbreak, the Friendship hospitals have served more than 73,000 patients.

Inmarsat Signs Greece and Cyprus Representation Agreement with SRH Marine Electronics

March 31, 2021 - Inmarsat, the world leader in global, mobile satellite communications, has signed an agreement with SRH Marine Electronics for SRH to provide formal representation for support to customers in Greece and Cyprus, whose Inmarsat Maritime contracts were purchased from Speedcast by Inmarsat at the beginning of this year. The agreement will include customer support for Inmarsat's Fleet Network Manager (formerly Sigma) portfolio of hardware products and only covers clients who held Inmarsat Maritime contracts formerly with Speedcast.

Intelsat Opens Three New Customer Support Centers in Brazil, South Africa and India

March 30, 2021 - Intelsat, operator of the world's largest integrated satellite and terrestrial network, is expanding its industry-leading customer support capabilities by opening three new Customer Operations Centers in Rio de Janeiro, Brazil, Johannesburg, South Africa and Chennai, India. The centers are a key component of Intelsat's world-class 24/7 customer experience, which provides customers with in-language troubleshooting, service activations, monitoring and other support in a variety of time zones and languages, including English, French, Spanish and Portuguese. All three sites are currently operational, with staff working remotely in adherence to COVID-19 safety precautions. The new centers build upon Intelsat's existing Customer Support Centers in Ellenwood, Ga. and McLean, Va. Intelsat has hired 10 additional employees for its Rio de Janeiro center and plans to hire additional specialists for the site in the second half of 2021. These technicians speak both Portuguese and Spanish to help serve Intelsat's hundreds of customers across Latin America. Intelsat also plans to add additional specialists to its Johannesburg and Chennai centers later this year.

Australian Defence Force Takes Control with Inmarsat Virtual Satellite System

March 30, 2021 - The Australian Defence Force (ADF) and Inmarsat have agreed to a AUS\$221 million contract extension for the provision of commercial satellite communications airtime services and managed hardware. Brigadier Gregory Novak, Commander Defence Strategic Communications Branch and Mr Todd McDonell, President Inmarsat Global Government, participated in a ceremony commemorating the ongoing relationship between the Commonwealth of Australia and Inmarsat Australia in the provision of global satellite services. These services enable a wide range of command, control, and situational awareness communications for the Australian Defence Force, the wider Department of Defence, and its Australian Government partners worldwide. The commemorative event also recognised the announcement of the contract extension between the two parties, the result of a successful Defence and industry partnership between the two organisations that has constantly evolved over the years in support of Defence's changing satellite communications requirements. The arrangements of this contract extension will run through to 2027. The overall commitment of the contract for satellite services is now AUS\$331m over the 10-year term, including options for three extensions of two years each, helping to bridge the forthcoming transformation in the way the Australian Defence Force acquires and uses satellite technologies.

Viasat Opens Network Operations Centre & Cyber Security Operations Centre in the UK

March 30, 2021 - Viasat UK today announced the opening of its state-of-the-art Network Operations Centre (NOC) and Cyber Security Operations Centre (CSOC) in Aldershot, UK. The facility will support defence, government and commercial organisations who rely on the guaranteed resilience of their networks, and who are targeted by increasingly sophisticated cyberattacks from a growing number of adversaries. The NOC and CSOC represent the beginning of a major investment in the UK prosperity and

sovereignty agenda from Viasat, which includes targeting the creation of more than 75 new highly-skilled network, analysis and cyber security roles, and more than £300m in UK-focused investment to support the launch and service roll-out of the impending ViaSat-3 constellation over Europe, Middle East and Africa. Acting as a global customer care centre, the NOC and CSOC offer customers monitoring, detection and network support to help ensure the overall health of the network; identify potential issues or security threats; resolve those issues and threats in the shortest time possible; and confirm that any threat resolution is successful.

Telesat Selects CloudOps to Develop Cloud Infrastructure for Telesat Lightspeed LEO Network

March 30, 2021 - Telesat announced an agreement with cloud consulting, managed services and software company CloudOps to build Telesat Lightspeed Cloud. CloudOps will deliver a cloud infrastructure, leveraging best-in-class technologies available across multiple cloud vendors, that will allow Telesat to deliver highly flexible services to customers over its Telesat Lightspeed Low Earth Orbit (LEO) satellite network. This agreement includes the design and development of the cloud infrastructure, cloud-native data platforms, and system operations optimized for Telesat Lightspeed. A leader in cloud computing, cloud networking, and DevOps solutions, CloudOps will build a highly agile network infrastructure, allowing Telesat Lightspeed Cloud to dynamically scale as required to meet Telesat's most demanding customer requirements. Applications will be able to operate seamlessly across Telesat cloud resources and customers' cloud services, while continuing to provide the most secure, highest quality of service.

Axelspace and KSAT Expand Their Partnership

March 29, 2021 - In a newly signed agreement, Axelspace Corporation and KSAT are expanding their existing partnership on Global Ground Network support to also include data distribution from AxelGlobe, powered by the constellation of GRUS, a 100Kg microsatellite for optical Earth observation. With the successful launch of 4 satellites (GRUS-1B, 1C, 1D and 1E) from Baikonur Cosmodrome in Kazakhstan, on March 22, 2021, Axelspace is moving toward its goal of developing AxelGlobe, the next-generation Earth observation platform, consisting of dozens of GRUS satellites. It will enable Axelspace to monitor any place on the planet on a daily basis, with 2.5-meter resolution, when it is complete with at least 10 satellites in 2023. By introducing AxelGlobe data to their already extensive portfolio of satellites, KSAT can strengthen their optical imagery capacity with a new resource. The GRUS constellation will be supported on the KSATlite Global Ground Network, and Axelspace will benefit from the scalable and API-based KSATlite solution, optimized for supporting growing satellite constellations. KSAT is also integrating with the Axelspace cloud solution, pushing the data directly into a public cloud for processing and storage. Being the only commercial operator of an optical satellite constellation in Japan, Axelspace has pioneered that market.

Inmarsat Launch Civil Court Proceedings in the Netherlands over Spectrum Allocation

March 29, 2021 - Inmarsat, the world leader in global, mobile satellite communications will initiate proceedings with the civil court in the Netherlands seeking an injunction to review the change in spectrum allocation set out by the Dutch Government, given a contravention of national and international law in the proposed update to the National Frequency Plan (NFP). The change aims to reallocate spectrum currently used by essential satellite-based maritime safety services to 5G telecoms, which is unnecessary given both can operate together within the spectrum band in question. Inmarsat is committed to the Netherlands, its Dutch team and to providing the company's free of charge, life-saving safety and distress satellite services for seafarers worldwide that land at the ground station in Burum in the Northern part of the Netherlands. Inmarsat wishes to find an amicable solution to this issue with the Dutch Government and to continue providing its safety operations in Burum. The company has sought such a solution for more than eighteen months. However, to date one has not been possible due to the intransigence of the Ministry of Economic Affairs. Should the Ministry wish to resume conversations towards a mutually-agreed solution, Inmarsat would continue its approach of constructive engagement in the interests of the users of the company's vital safety services.

Arabsat, Fixed Solutions, and EgyptSat Sign a Strategic Partnership & Joint Cooperation Agreement

March 28, 2021 - The Arab Satellite Communications Organization – Arabsat – announced the signing of a strategic partnership and cooperation agreement with Fixed Solutions and EgyptSat to enhance the commercial relationship between the three parties and benefit from the different services of Arabsat satellites, which have a multiple wide range of coverage. Khalid bin Ahmed Balkheyour, CEO of Arabsat, expressed his happiness with this signature, stressing Arabsat's determination to provide all satellite services through its satellites fleet various wide range coverage in the world, wishing all success for this

agreement.

Marlink Strengthens Enterprise Business with Acquisition of Customer Base from GEE

March 26, 2021 - Marlink has announced the acquisition of customer contracts and assets from Global Eagle Entertainment (GEE), which has emerged from Chapter 11 restructuring. As part of this deal Marlink has taken over more than 450 VSAT sites in five continents serving large humanitarian/NGO, Embassy, Oil and Gas and Mining customers as well as GEE's African fixed site land business. The transaction is the result of an efficient collaboration between Marlink and GEE teams which was aimed at structuring a deal ensuring service continuity for GEE's NGO/humanitarian and enterprise customers. This acquisition will further strengthen Marlink's global leadership position and momentum in the enterprise satcom market serving NGO/humanitarian, energy/mining and government customers.

OneWeb Welcomes TrustComm as a DoD Distribution Partner

March 26, 2021 - OneWeb announced a Memorandum of Understanding with US DoD satellite communications application specialist, TrustComm Inc. The agreement, signed on 16 March, envisions OneWeb and TrustComm working together to deliver OneWeb's high speed, low latency, beyond line-of-sight communications services – with initial focus on the northern latitudes. The partnership between OneWeb and TrustComm will enable Low Earth Orbit (LEO) - delivered connectivity to government customers, bringing unprecedented opportunity to end users. TrustComm specializes in combining satellite and terrestrial communication systems into fully interoperable networks, providing customers with best-fit and customized end-to-end connectivity solutions in Ku, Ka, L, C and X-band frequency ranges. TrustComm operates a Teleport and Secure Managed Services Operations Center at Ellington Field Joint Reserve Base in Houston, Texas, and holds a number of DoD contract vehicles to provide managed satellite services. OneWeb's partnership with TrustComm will focus on early adopters looking to take advantage of LEO technology including the US Naval Research Lab, US Army Futures Research Lab and others. Solutions will be deployed initially into areas of operation including the Arctic which continues to suffer from poor levels in connectivity due to its high latitude and extreme terrain. OneWeb and TrustComm also expect to support the biennial Ice Exercise (ICEX) in 2022.

KVH Introduces TracPhone V30 Marine VSAT Antenna for Affordable Internet at Sea

March 25, 2021 - KVH Industries today introduced the TracPhone V30, an ultra-compact Ku-band VSAT antenna designed to deliver data speeds as fast as 6 Mbps down/2 Mbps up for leisure and commercial boats wanting to experience the benefits of Internet at sea. Measuring just 37 cm (14.5 inches) diameter and weighing 10.6 kg (23.4 lbs), the TracPhone V30 is designed to provide ease of installation and retrofit with a single power-data coax cable, versus multiple cables, and to utilize DC power, a plus for small boats with a limited power supply. KVH engineered the antenna with a modem in the dome to deliver outstanding reception with improved signal efficiency, as well as high-performance tracking and stabilization for fast boats and rough seas. A streamlined belowdecks unit, called the VSAT-Hub, provides state-of-the-art HTS modem connections, built-in Wi-Fi, data routing, firewall security, and a VoIP adapter for phone calls.

SpaceLink Establishes DC-area Headquarters

March 24, 2021 - SpaceLink today announced it has established its headquarters office in Tysons Corner, Virginia near Washington, DC. The company is building a space relay network in Medium Earth Orbit (MEO) to provide secure, continuous, high-bandwidth communications between customers' Low Earth Orbit (LEO) spacecraft and the ground. The SpaceLink relay network is designed to pick up where the U.S. Tracking and Data Relay Satellite System (TDRSS) leaves off, and go beyond with unprecedented capacity that leverages today's technology advances. It helps close the business case for Earth observation companies, commercial space stations, satellite servicers and tugs, and meets requirements for the U.S. government and close allies that need to leverage industry solutions to maximize capabilities. The innovative MEO constellation is designed so that at least one of the relay satellites is always visible to any spacecraft in LEO and the SpaceLink constellation is always within line of sight of its gateway Earth stations. In addition to its headquarters in northern Virginia, SpaceLink has operations in California's Silicon Valley and in Huntsville, Alabama. The company is a subsidiary of Electro Optic Systems of Australia (EOS) and benefits from financing, support, and advanced technology from its corporate parent, including optical communications which unlock massively scalable capacity.

Myriota Launches Commercial Service in the United States and Canada

March 23, 2021 - Myriota today announced the availability of commercial IoT services in the United States

and Canada, with the first of three new nanosatellites launching on Rocket Lab's 'They Go Up So Fast' mission. Weighing less than seven kilograms and the size of a loaf of bread, the nanosatellites will deliver an improved, second-generation Myriota Network which will be open to customers in the US and Canada for the first time. The service launch is accompanied by a new Myriota Developer Toolkit, which provides developers with the tools needed to unlock their industry's full potential, thanks to Myriota IoT connectivity. Myriota's first-generation network is already delivering millions of messages in Australia and New Zealand and connecting critical industries like environmental monitoring, agriculture and mining. Myriota Certified commercially available products include Goanna Ag's rain gauge and water tank level monitor - GoRain and GoTank, Yabby's dam level monitor - the Yabby Floating Level Sensor - and the Yabby Level Sensor and Rain Gauge. Myriota has attracted over AU\$50 million in venture capital from investors including Main Sequence Ventures and Hostplus, as well as US-based Boeing HorizonX Ventures, In-Q-Tel, and Singtel Innov8. The launch of Myriota's American and Canadian services follows the acquisition of select satellites and ground stations from exactEarth Ltd. in April 2020.

Global Eagle Completes Sale to Investor Group and Operations Emerge from Restructuring Process

March 23, 2021 - Global Eagle Entertainment Inc. has successfully completed the previously announced sale of substantially all of the Company's assets to a group comprising the Company's first-lien investors and its operations have emerged from the Chapter 11 restructuring process. Consistent with the Company's post-restructuring focus on mobility, the Company also announced it has completed the sale of its legacy non-governmental organization (NGO) and African fixed-site land business to Marlink AS. Global Eagle's solutions integrate connectivity from multiple sources, including high-speed satellite networks and terrestrial wireless systems, and on-board media for compelling guest experiences in the air or at sea. The Company's competitively differentiated, open-architecture and multi-platform satellite network provides unparalleled scalability, reliability and future compatibility with next-generation technologies, enabling Global Eagle to uniquely meet the evolving needs of its customers. The Company is also strategically focused on enhancing passenger and guest experiences with new and exclusive media partnerships, proprietary cloud-based editing, local content, and available integrated distribution through Global Eagle's satellite connectivity network.

Comtech Awarded Follow-on Order for More Than \$1.0 Million for Military X-band SSPAs

March 22, 2021 - Comtech Xicom Technology, Inc., a world leader in high-power amplifiers, received a contract valued at more than \$1.0 million for X-band SSPA/BUCs for transportable military satellite communications ("satcom") ground systems. X-band is set aside for government satellite service, primarily military applications that require low interference, low rain-fade, and small terminal size, even if data rates are limited. One of the major challenges of X-band is that, unlike other satcom bands, the receive band is adjacent to the transmit band, making it critical that any RF leakage be extremely low to avoid interfering with the receive signal. Xicom's X-band amplifiers and BUCs are optimized for this challenging low leakage requirement as well as being high in power density, highly efficient and compact. They are ideal for fixed, transportable, manpack, and mobile military applications.

SES Selects Gilat to Enable Tier-1 4G/LTE MNO in Brazil to Provide Broadband Connectivity for Education

March 22, 2021 - Gilat Satellite Networks announced today that SES has selected Gilat to enable a Tier-1 4G/LTE Mobile Network Operator (MNO) in Brazil to provide broadband connectivity for education. Gilat's multi-service platform opens opportunities for additional applications in the region. Gilat's SkyEdge II-c platform will provide connectivity to hundreds of schools in Brazil over the SES-14 Ku-band High Throughput Satellite (HTS). This will enable the Tier-1 MNO to fulfill the government obligation of extending broadband connectivity for education to Brazil's most remote schools.

TESAT Partners with MDA for Telesat Lightspeed

March 22, 2021 - TESAT has announced its collaboration with MDA for the upcoming Low Earth Orbit (LEO) satellite broadband network Telesat Lightspeed. MDA, a Canadian space manufacturer, has been selected to provide one of the critical technology subsystems for this innovative constellation. TESAT has partnered with MDA as part of the development of the Direct Radiating Array (DRA), a revolutionary phased array that will herald the future of satellite communications. MDA will deliver over 1000 units for which TESAT, as a collaboration partner, will provide essential power components. These RF modules are based on TESAT's longtime heritage and knowhow in the development and production of space equipment, paired with its capability and experience in the high reliable and high volume space module production.

KVH Partners with Tile Marine for KVH Watch Maritime IoT Solution

March 22, 2021 - KVH Industries, Inc announced today that Tile Marine, a leading marine services company in India and the Middle East, is now a KVH Watch® Solution Partner and will offer KVH Watch connectivity to augment its extensive maritime solutions. Tile Marine's services cover a wide range of electrical, electronic, and mechanical work for shipowners and shipyards including installation, maintenance, and repair of communications equipment, integrated bridge systems, and other critical maritime equipment. KVH Watch is an IoT Connectivity as a Service solution that provides Flow, secure 24/7/365 machine-to-cloud satellite connectivity for remote monitoring of onboard equipment plus the ability to perform on-demand Remote Expert Interventions using video, voice, or text via KVH's global HTS network. KVH Watch is designed for maritime equipment manufacturers, multivendor service providers, and shipyards seeking affordable monthly subscription-based connectivity that L-band and cellular services cannot deliver at deep sea.

OneWeb and SatixFy Sign Agreement for In-Flight Connectivity (IFC) Compact Terminal

March 19, 2021 - OneWeb and SatixFy UK have signed an agreement to develop a new In-Flight Connectivity (IFC) terminal that will work over the OneWeb network as well as on Geostationary (GEO) satellite networks. SatixFy UK has formed a Joint Venture with Singapore Technology Engineering Ltd (ST Engineering), called JetTalk, to exclusively commercialize the IFC terminal for the Commercial Aviation market. The agreement reaffirms OneWeb's ambitions in the global aerospace arena as it sets out its roadmap to support commercial, regional, business and government aviation users. The IFC terminal will unleash the power of OneWeb's Low Earth Orbit (LEO) constellation and deliver a 'home-equivalent' inflight broadband experience, while also allowing operators to complement their legacy GEO service. The product is based on SatixFy's Electronically Steered Multibeam Antenna (ESMA) technology, developed together with JetTalk, provides multibeam capability and operates simultaneously on multiple LEO and GEO satellites. Well positioned to bring ESMA technology to the market earlier than originally anticipated, SatixFy, has recently completed the development of Tx tile of 576 elements and Rx tile of 1024 elements, that can be used as building blocks for the planned terminal. The tiles, which have been co-developed together with JetTalk, have completed initial testing and are currently being implemented inside a terminal product. The OneWeb IFC terminal will integrate the OneWeb modem as well as a GEO network one, inside the terminal.

Amartus Supporting SES with O3b mPOWER Automation

March 18, 2021 - Amartus is supporting SES with its deep expertise in network automation standards and a proven track record adapting commercial B-OSS software platforms to meet the needs of SES's next-generation non-geostationary satellite orbit (NGSO) constellation called O3b mPOWER. The official, multi-faceted cooperation between the companies started in October 2020. O3b mPOWER is SES's next-generation constellation that operates in the medium earth orbit or 8,000km away from the earth's surface. It comprises an initial constellation of 11 high-throughput and low-latency satellites as well as extensive ground infrastructure. The O3b mPOWER communications system will be operational in 2022 and will deliver connectivity services ranging from 50Mbps to multiple gigabits per second to telecommunications, maritime, aeronautical, and energy industries, as well as governments and institutions across the world. The O3b mPOWER satellites are the first from SES to have Full Digital Beamforming Payload, which enables the highest level of flexibility with large frequency routing capabilities and beams able to point anywhere within the field of view. As a result, O3b mPOWER can connect more users while delivering high-standard services.

Inmarsat Selected By UK Space Agency to Develop Satellite-Based Rocket Launch Telemetry System

March 18, 2021 - The UK Space Agency has awarded a National Space Innovation Programme (NSIP) contract to Inmarsat, the world leader in global, mobile satellite communications to develop an in-orbit telemetry relay service for rockets called "InRange". Inmarsat's InRange service will reduce the dependency of space launch providers on traditional, expensive ground-based monitoring systems infrastructure for their rockets and will provide a more cost-effective, flexible solution, available globally via Inmarsat's geostationary L-band satellite network. Inmarsat is working with Japan's Mitsubishi Heavy Industries (MHI) to ensure the InRange service develops to meet the challenging environmental conditions experienced by launch vehicles. Safran Data Systems (France) and Haigh-Farr Inc. (USA) are also partners in this project and focus on the L-band transmitter and antenna design.

GateHouse SatCom and Addvalue to Co-build 5G Narrow Band-IoT Satellite Terminal

March 18, 2021 - Space Narrow Band (NB)-Internet-of-Things (IoT) will disrupt the IoT market. As of 1

January 2021, more than 1,900 SmallSats have been launched, and the number is expected to grow rapidly within the years to come. To meet the anticipated future connectivity demands of such a growing market, GateHouse SatCom (a subsidiary of GateHouse) and Addvalue Innovation (a subsidiary of Singapore Exchange Mainboard-listed Addvalue Technologies) will jointly develop the world's first 5G NB-IoT satellite communication terminal ("5G NB-IoT Satcom Terminal") for collaboration with companies that aspire to take advantages of the fast-growing 5G satellite systems. Standardization in the satellite IoT market will be a key factor in achieving a sustainable business in the satellite communication market. The 5G NB-IoT Satcom Terminal, based on the 3rd Generation Partnership Project (3GPP) standards, will be fully functional with all 5G satellite networks worldwide. The standardization will drive scalability and globalization of satellite communication in the future, thereby allowing operators to move their focus from technical challenges towards their core business and in providing improved services to their customers. The availability of standardized solutions, apart from supporting the scalability of business, will, both in the short-term and the long-term, help to save cost and rid the hassle of low or no coverage.

BSNL Selects NOVELSAT Hub System for Remote Islands Connectivity

March 17, 2021 - NOVELSAT has been awarded a contract by System Integrator Precision Electronics Ltd (PEL) on behalf of BSNL, the Indian state-owned telecommunications company, to provide high capacity satellite-based connectivity for broadband and backhaul services under a Universal Service Obligation (USO) project funded by the Department of Telecommunications. BSNL is looking to increase its network capacity to address growing demand for broadband amidst sharp rise in data consumption across users and locations. PEL along with its technology partner NOVELSAT addressed the BSNL requirement, and in turn their customer BSNL selected NOVELSAT's Xnet Data hub system for the exceptional efficiency and flexibility it offers for growing BSNL network. Designed to support the growing needs of hub network operators, NOVELSAT's Xnet optimizes and maximizes both performance and usage of satellite and network resources. Utilizing NOVELSAT's DynamiX technology for dynamic allocation of network resources in MCPC/Point-to-Multi-Point networks on top of the most bandwidth-efficient waveform, NOVELSAT NS4™, significantly improves network economics. NOVELSAT partnered with Precision Electronics Limited, a listed company in India to offer its solution to BSNL. Precision Electronics Limited brings in network elements like networking gear, antenna & indoor/outdoor electronics, and overall systems integration beyond the core satellite hub and remote solution from NOVELSAT.

Viasat, U.S. Navy Renew Contract for Managed Internet, Wi-Fi and Voice Services Worldwide

March 17, 2021 - Viasat Inc. and the Navy Exchange Service Command's NEXCOM Telecommunications Program Office, today announced a five-year contract extension, whereby Viasat will continue to deliver managed internet, Wi-Fi, voice and other services for personal use networks across Navy facilities worldwide. The contract also adds the roll-out of interactive satellite-based high-definition TV service at 32 Navy Lodge® sites, to enrich the lives of sailors, their families and guests during their stay. Under this extended contract, Viasat will provide personal-use telecommunications services, in support of multiple programs at Navy and joint base installations, for sailors who live in Unaccompanied Housing (UH) or Family Housing (FH); who visit Navy Morale, Welfare and Recreation (MWR) facilities – including fleet and family service centers, gymnasiums, bowling alleys, liberty centers, libraries and child development centers; and to those who are either staying in or visiting lodging or other temporary living facilities, such as Navy Lodge®, Navy Gateway Inns & Suites®, Navy Get-A-Ways®, Wounded Warrior Program® and Fisher House® facilities.

Iridium Partner Marlink Expands Relationship with Soremar Group

March 16, 2021 - Marlink has extended its partnership with Soremar Group to provide Iridium® Global Maritime Distress and Safety System (GMDSS) services and Vessel Monitoring Systems (VMS). This extension of services will provide an enhanced range of safety and vessel management services to fishing operators in North Africa, enabling more vessels to stay connected and compliant anywhere they sail. Marlink and Soremar previously worked together to create a portal that can be used by shoreside teams to track fishing vessels at sea and send and receive vessel positions and fleet overview. This expanded collaboration will now enable fishing operators in North Africa to do this over the Iridium network, ensuring they meet regulatory requirements. Through Iridium's reliable and fully programmable VMS solutions, North African fisheries can gain full visibility anywhere at sea, at an affordable price.

ST Engineering and Google Cloud Join to Support Cloud Strategy in Singapore's Regulated Industries

March 15, 2021 - ST Engineering today announced it is collaborating with Google Cloud to explore and

develop secure cloud solutions for Singapore-based organisations in regulated industries with stringent security and privacy requirements. Catering to workloads that involve confidential and sensitive data, the solutions will enable customers to run digital services securely in a Singapore based and operated cloud environment. ST Engineering and Google Cloud will explore offering cloud solutions that will enable customers to run sensitive workloads locally on ST Engineering's secure cloud and take advantage of Google Cloud's highly differentiated infrastructure, software, data and security solutions. Moving applications or services to the ST Engineering-operated secure cloud will enable organisations in regulated industries including financial services to reduce the time it takes to deliver new innovation for their users, while ensuring services are secure and compliant by design. The collaboration reflects the shared commitment of ST Engineering and Google Cloud to help customers in regulated industries accelerate their digital transformation. ST Engineering has a strong track record serving customers in regulated industries with its capabilities in professional and managed services, security and modern application transformation in both private and public clouds, while Google Cloud is an approved cloud service provider evaluated and selected by the Government Technology Agency to work with government agencies in Singapore. It is also a pioneer in 'zero trust' security and in deploying innovative approaches for protecting and securing networks worldwide.

Evitalz Signs up as New Inmarsat Fleet Connect Dedicated Bandwidth Application Provider

March 15, 2021 - Evitalz and Inmarsat, the world leader in global, mobile satellite communications, have signed an agreement for Evitalz to join the fast-growing group of certified application providers to offer a dedicated application for Inmarsat's Fleet Connect service. Fleet Connect is a dedicated bandwidth service that provides connectivity independent of the ship owners' primary bandwidth, allowing Application Providers to have an always-on, or on-demand, two-way communication channel to the vessel. Evitalz will use Fleet Connect to provide its telehealth/telemedicine solution; a combination of FDA approved and CE certified medical devices that use its Vitalink app to record and interpret the patient's vital signs in real-time. The diagnostic readings are gathered from the devices and compiled with patient symptoms and other data, and wirelessly sent to the app. Evitalz provides shipmasters or care-givers with a 'plug n play' medical diagnostic infrastructure to perform vital checks of a patient, wherever, whenever.

Contec Selects Safran LEGION 400 Antenna for its International Satellite Ground Station Network

March 15, 2021 - Safran Data Systems has signed a contract with Contec, a Korean company operating in the "New Space" environment, which is developing an international network of satellite tracking ground stations. Contec selects a combination of Safran Data Systems' compact LEGION 400 antennas, 4 meters in diameter, and the highly miniaturized Satcore DirecT modems. This gives the company a state-of-the-art ground infrastructure to place it at the high end of the Ground Segment-as-a-Service (GSaaS) market, while keeping user costs affordable. Thanks to the modular design and scalability of the LEGION 400 antenna, Contec will soon be offering S and X-band services, with a possible extension to Ka-band and auto-tracking.

Omnispace Demonstrates 5G Satellite Capability with U.S. Navy & Marine Corps

March 15, 2021 - Omnispace announced the successful demonstration of 5G satellite capability with the National Security Innovation Network (NSIN), along with the Navy and Marine Corps. Omnispace was selected by NSIN in 2020 to pilot its technology in connection with Verizon's new 5G "Living Lab." Last week, Omnispace successfully tested an initial 5G-via-satellite capability in a LinQuest lab demonstration for the U.S. Navy and Marine Corps. A number of commercial-off-the-shelf 5G devices successfully communicated voice and data services via an emulated 5G radio access network (RAN), to Omnispace's on-orbit satellite, leveraging LinQuest Corporation's lab facility in Northern Virginia. Omnispace is continuing the development of a global hybrid 5G communications network based on 3GPP standards, which will ensure security and interoperability of devices all over the world for a wide array of enterprise and government customers. The company plans to make its direct-to-satellite 5G NTN connectivity solutions available through its 'one global network,' which will utilize the company's existing 2 GHz priority spectrum rights. Initial elements of the Omnispace network will enter into service in 2022.

Novocomms' Latest IoT Antenna Offers World Beating Performance at the Lowest Price

March 15, 2021 - Novocomms announces the global launch of the FPCB LTE 4G antenna. The FPCB LTE 4G is the latest addition to the British technology company's family of patented multi-channel antenna for use within the Internet of Things (IoT) sector. Novocomms has invested heavily to provide customized engineering support to their customers – unique within the industry. The company's highly qualified team of engineers has many years of industry experience in providing solutions within the IoT supply chain.

Novocomms range of antenna already provides world-beating performance within the hardware of leading computer and consumer product brands. Novocomms' experienced team of engineers includes members who hold PhD's in fields of sensory and radio frequency. The LTE 4G Bands Flexible PCB has a fully customisable cable and can be adapted to respond to LB, MB or HB bands. All antennae are designed with 50Ω impedance. The LTE range is all available with a fully customizable coaxial cable. With the growing demands of IoT devices within the medical sector Novocomms designers have designed to enable transmission and receiving across 4G, Wi-Fi, Bluetooth and satellite frequencies.

Speedcast Announces Completion of Restructuring and Emergence under New Ownership

March 11, 2021 - Speedcast has successfully completed its restructuring process and today emerged from chapter 11 proceedings under the ownership of Centerbridge Partners, L.P. Following Centerbridge's USD \$500 million equity investment in the company, Speedcast now has a clean balance sheet with no secured debt and a healthy cash balance, optimally positioning it as a stable, long-term partner for its employees, customers and vendors. Over the past 12 months, Speedcast has taken meaningful steps to reduce its cost structure and strengthen its operations. Now under new ownership, the company is moving forward on the course it set to transform its business and help customers evolve what their remote operations can achieve with fully connected systems that harness future-ready technologies and applications. Part of this effort includes integrating the company's previous mobility networks to build a comprehensive, unified global platform capable of supporting the most demanding customer operations and digital transformation requirements.

Telesat and SatixFy to Validate Advanced Next-generation Modem Designs for Telesat Lightspeed LEO Network

March 10, 2021 - Telesat announced today an agreement with satellite communications technology company SatixFy, giving Telesat early access to SatixFy's second-generation Sx3099 modem chip. Under the agreement, SatixFy and Telesat will demonstrate advanced modem designs for both Landing Stations and User Terminals for Telesat Lightspeed, Telesat's revolutionary Low Earth Orbit (LEO) satellite network. The companies will perform a six-month requirements verification program, focused on the development and testing of evaluation boards and prototype modem units. The companies will also conduct integration work and interoperability tests with the Telesat Lightspeed satellite onboard processor. SatixFy's advanced Sx3099 modem chip is capable of processing multiple gigabits per second in both transmit and receive directions. The highly integrated, high-performance chip is well suited for the advanced requirements of the Telesat Lightspeed network and can support high-capacity links and beam hopping with lower power consumption, smaller cell size, and lower price points than competitive offerings.

Exotrail Signs License Contract with Thales Alenia Space for ExoOPS Simulation and Operation Software

March 10, 2021 - Thales Alenia Space has become a customer of ExoOPS - Mission Design. Thales Alenia Space and Exotrail signed the contract in January. ExoOPS - Mission Design is Exotrail's simulation and mission design environment commercialized as part of the ExoOPS software suite. Accessible as a Software-as-a-Service (SaaS), ExoOPS-Mission Design is a simulation environment built on Exotrail unique in-house flight dynamics and object-oriented core, ExoOPS-Engine. On top of ExoOPS-Engine, ExoOPS-Mission Design aggregates simulation and design functional modules allowing to run quick scenarios for constellation design, generation, and optimization; parametric studies on mission performance for given satellite parameters or complete satellite simulation performances for a given mission.

Gilat to Supply Enterprise Connectivity in Brazil for a Multinational Leading Energy Company

March 10, 2021 - Telespazio selected Gilat to supply enterprise connectivity in Brazil for a multinational leading energy company. Gilat will provide the satellite network and thousands of VSATs to energy plants of Brazil's largest private sector energy company. Gilat's high-reliability solution was chosen due to its ability to answer the customer's demanding Service Level Agreement (SLA) requirements. Gilat's SkyEdge II-c platform will support energy plants in distant locations and provide the ability to prioritize critical applications of the power plants due to its sophisticated Cloud QoS.

DTP and SES Networks Bring High-speed Broadband to over 150 Villages in Indonesia

March 9, 2021 - A recently signed partnership agreement between Dwi Tunggal Putra (DTP) and SES Networks is enabling residents of 158 villages in remote parts of Indonesia's West Java Province to access crucial online resources such as educational content, as well as unlocking the potential of the region's digital economy. The Smart Village project, spearheaded by Indonesia's telecommunication and

information accessibility agency, Badan Aksesibilitas Telekomunikasi dan Informasi (BAKTI), aims to bridge the digital divide and bring much-needed e-government and other essential services to underserved rural communities of Indonesia. Under the multi-year agreement, DTP will be using high-throughput capacity on the SES-12 satellite to support the Ministry of Communication and Information Technology's Smart Village project and fulfil the government's universal service obligation (USO). SES Networks is already serving the BAKTI Leased Capacity Project using the SES-12 ground station in Indonesia. DTP has contracted substantial capacity on SES-12, a powerful high throughput satellite (HTS) orbiting at geostationary (GEO) orbit. SES-12 covers the Middle East and Asia Pacific region with 72 high throughput user spot beams, as well as six regional beams. Tailored for data-heavy applications, SES-12 provides cost-effective solutions for broadcasters, content operators, mobile network operators, internet service providers, enterprise, maritime, aeronautical and government customers.

Integrasys Developed Restful APIs for All the Product Satellite Portfolio

March 9, 2021 - 2020 has been a year of constant changes, customers demand M2M integration for non-human interaction. Integrasys has listened to the customers and has complied with their demands developing Restful APIs for the complete product-line. From Beam Budget, the Link Budget Calculator, Satmotion No Touch Commissioning, Alusat Predictive Maintenance System, Controlsat Carrier Monitoring, and Vectorsat Interference Detection; as well as Calibration System and RF Switching Matrixes. Integrasys has developed APIs for all the products offered. The software company, whose main purpose is automating the network design, deployment, monitoring, and maintenance, is now integrating the functionalities provided in easy-to-interact APIs, user-friendly and with the power of making the automation happen, providing the customer with the most effective technologies and incorporating the latest trends.

ST Engineering iDirect Recognized with Factory of the Future Award for the Third Time

March 9, 2021 - ST Engineering iDirect has once again received the prestigious Factory of the Future award, with its Manufacturing Competence Centre (MCC) recognized for its best-in-class, future-proof and sustainable manufacturing technologies and processes. The award, initially created by the Belgian government and expanded to include all of Europe, recognizes forward-looking manufacturers that systematically take up the challenges of the Fourth Industrial Revolution. Having received the accolade in 2015 and 2018, the Factory of the Future award reaffirms ST Engineering iDirect's position as an innovative industry leader with advanced and sustainable manufacturing practices.

Satcom Direct Begins Airborne Validation of Plane Simple Ku-band Tail Mount Antenna System

March 9, 2021 - One year after announcing the launch of the Plane Simple Satcom Antenna Systems, Satcom Direct has begun rigorous airborne testing of its advanced technology, purpose-built Ku-band tail mounted antenna system. The transition from development to ground assessment to the aerial testing phase aims to validate the full performance capabilities of the Ku-band terminal. Inflight trials will also confirm the system's integration with the SD ecosystem of hardware, software and supporting ground infrastructure. The antenna, which is now equipped on SD's Gulfstream aircraft, will be stretched to the limits of its capabilities while providing empirical feedback about its functionality in an aerial environment.

Frost & Sullivan Honours Hughes India with Company of the Year Award

March 8, 2021 - Hughes Communications India Private Limited ('Hughes India') has been named 2020 Indian VSAT Service Provider Company of the Year by Frost & Sullivan. Recognized for exemplary contribution to providing high-speed connectivity to enterprises and government verticals with its best use of VSAT technology and solutions, Hughes India is a majority-owned subsidiary of Hughes Network Systems, LLC (HUGHES), an innovator in satellite and multi-transport technologies and networks for 50 years. The Frost & Sullivan report notes the breadth of industries served by Hughes VSAT solutions and HughesON™ managed network services, including banking, defense, telecom, education, and retail. It also calls attention to the company being the first in India to obtain a flight and maritime connectivity license to provide high-speed satellite connectivity on land, air, and sea. Furthermore, Frost & Sullivan notes that Hughes supports various government initiatives and public-private partnership opportunities to provide remote voice and broadband connectivity throughout India and aims to bring its world-class satellite internet service, HughesNet®, to the country soon.

KSTI, MCMC and MEASAT Brings High-Speed Broadband Connectivity to More Rural Communities in Sabah

March 8, 2021 - Delivering on its continued commitment to power an inclusive future where everyone has

access to the internet, Sabah Ministry of Science, Technology and Innovation (KSTI), Malaysian Communications and Multimedia Commission (MCMC) and MEASAT Global Berhad (MEASAT) today successfully deployed CONNECTme NOW, a community-based prepaid broadband service via satellite to two more rural locations, Kampung Gana, Papar and Kampung Kumawanan, Tambunan, in Sabah. With the first 300GB sponsored by the Sabah State Government to each village, KSTI intends to urgently address the issue of poor internet access and connect more people, enterprises, and institutions across rural areas to high-quality, affordable broadband internet. CONNECTme NOW employs Very Small Aperture Terminal (VSAT) and High Throughput Satellite (HTS) technology at strategic places within Kampung Gana, Papar and Kampung Kumawanan, Tambunan. These VSAT terminals along with WiFi hotspot equipment, will enable villagers within a 100m radius to receive broadband services. Villagers can access the internet through Prepaid Access Code (PAC) vouchers, with no contract or fixed monthly charges. CONNECTme NOW is Malaysia's first prepaid satellite broadband WiFi Hotspot service by MEASAT. MEASAT's ability to deliver High-Speed Satellite Broadband nationwide makes it a strategic partner to support the Government's aspirations through Jalanan Digital Negara (JENDELA), which aims to achieve 100% 4G coverage in populated areas.

Intellian Signs Contract with OneWeb for User Terminals

March 8, 2021 - Intellian is delighted to announce that it has entered into a US\$73 million contract with low earth orbit (LEO) satellite network provider OneWeb to develop and supply affordable compact user terminals. These innovative, easily-installed antennas will use next-generation technology to provide high bandwidth, low latency connectivity to OneWeb's global satellite service, delivering to multiple markets including enterprise and government services. OneWeb is launching a constellation of 648 LEO satellites, which when complete will deliver affordable, fast, high bandwidth and low latency Ku-band connectivity to every corner of the world. The new low cost compact terminals will be unveiled later in the year and are scheduled to become available in 2022.

Comtech Awarded \$1.5 Million in Orders for Satellite Modems and Optimization Equipment

March 8, 2021 - Comtech EF Data Corp., a leading provider of satellite communication equipment, was awarded \$1.5 million in orders from a North American communications service provider. The orders specified the CDM-760 Advanced High-Speed Trunking and Broadcast Modem and the HX 5020c-Duo Optimizer. The combined solution enables high-speed Internet and mobile communications to remote locations over a GEO stationary satellite. The latest generation single rack-unit load balancer and TCP acceleration features offered by the HX 5020c-Duo Optimizer runs in a virtualized environment. The CDM-760, in conjunction with the HX 5020c-Duo optimizer, incorporates an industry unique feedback mechanism that automatically adapts to changing link conditions in real-time and finds the most appropriate configurations to deliver a superior Quality of Experience.

ND SATCOM Secures Major Asian Defence Projects

March 8, 2021 - ND SATCOM's reliability and engineering innovation underpinned new deals with a major Asian country. These defence industry customers also rely on ND SATCOM's respected reputation for discretion given the highly critical and sensitive nature of governmental defence operations. Mission-critical new features and capabilities clinched the deals, in particular True-Mesh ACM, Any-to-All Mesh functionality and full DVB Redundancy. With the recent launch of SKYWAN 5G Release 2.0; the unique selling feature of True-Mesh ACM garnered much attention. Providing the highest link reliability regardless of weather, ND SATCOM's exclusive True-Mesh ACM provides 64x boost throughput with a single hop even from remote-to-remote. This game-changing innovation convinced decision-makers of ND SATCOM's continuing edge in the satellite communication sphere. Complementing this is the ability to flexibly decide on network topology via three modem types within the same 1U hardware: Hubless true-mesh MF-TDMA, DVB-S2 or the new SCPC links with highly efficient point-to-point connection. The 4-year software support package with this release ensures business continuity and cybersecurity.

Airbus Wins its First Syracuse IV Ground Segment Programme Contract

March 4, 2020 - Within the Syracuse IV programme, Airbus has been awarded a 10-year framework agreement called Copernicus for the construction and upgrading of part of the ground segment for the telecommunications satellites used by the French Armed Forces. As part of Copernicus, the French Directorate General of Armaments (DGA) has placed an initial order worth more than € 100 million. This first order specifically covers the development of the future satellite communications management system for the French Ministry of Defence. This unique portal called Pegasus, accessible to all units, will enable the French Armed Forces to optimise use of the available capacities on military and commercial satellites. It

will make it possible to coordinate requests entered by central military staff or any unit deployed on the ground, at sea or in the air. Allocation of satellite capacities will be optimised in terms of operational criteria completed by the units, such as the type of terminals used, ground cover, level of cyber security, jamming resistance, as well as the need for availability. The Copernicus project also aims to increase the operability of Comcept, the multi-satellite communications network designed by Airbus and commissioned by the French armed forces in 2017. Comcept uses the broadband Ka-band transmission capacities of the Franco-Italian military satellite ATHENA-FINDUS, in addition to the Ku- and C-band capacities of commercial satellites. Thanks to these developments, Comcept will also be able to use the high-speed Ka-band of future satellites SYRACUSE 4A and 4B.

ABS Assures Essential, High-speed Connectivity to the Remote Pacific Islands

March 4, 2021 - ABS has reinforced its commitment to the delivery of high-speed connectivity to the remote Pacific Islands and upgraded Tuvalu Telecommunications Corporation's (TTC) network to bolster essential connectivity to its population. International and inter-island voice and data connectivity in Tuvalu is provided exclusively by the deployment of satellite links. Due to the geographic location and distribution of the nine islands, satellites are the only feasible technology that can provide inter-island connectivity. TTC plans to expand ABS coverage to the rest of the outer islands (Nanumea & Niutao are the last two Islands left) and increase bandwidth. As part of its investment plan for the next five years, TTC is also planning to extend 4G mobile coverage (started this year) to the outer islands using ABS satellite link.

Brightree Signs up as New Inmarsat Fleet Connect Dedicated Bandwidth Application Provider

March 4, 2021 - Brightree and Inmarsat have signed an agreement for Brightree to join the fast-growing group of certified application providers to offer a dedicated application for Inmarsat's Fleet Connect service. Fleet Connect is a dedicated bandwidth service that provides connectivity independent of the ship owners' primary bandwidth, allowing Application Providers to have an always-on, or on-demand, two-way communication channel to the vessel. Brightree will use Fleet Connect to offer their Marine Bunker & Fuel Consumption Monitoring application and Remote Engine Monitoring services. Brightree's application with a state-of-the-art Coriolis mass flowmeter, to accurately measure marine engine fuel consumption and bunkering transfer, and their Dandelion cloud-based remote controller transmits real-time consumption data over Fleet Connect, to assist and achieve fuel efficiency.

Comtech Telecommunications Closes Acquisition of UHP Networks

March 3, 2021 - Comtech Telecommunications announced today that it has closed the acquisition of UHP Networks Inc., a leading provider of innovative and disruptive satellite ground station technology solutions. Founded in 2011, UHP is based in Canada and has developed revolutionary technology that is transforming the growing Very Small Aperture Terminal (VSAT) market. UHP's unique time divisional multiple access (TDMA) technology used in its VSAT platforms has software defined network functionality that offers best-in-class support for very large networks. With over 3 billion people globally who are not connected to any wireless services, the UHP acquisition allows Comtech's customers to cost-effectively provide service to end-users with the quality and reassurance of the Comtech brand and service offerings.

Gilat's In-flight Connectivity Transceiver Tested by Global Eagle for DO-160G Certification

March 3, 2021 - Gilat Satellite Networks announced today that its fully owned subsidiary, Wavestream, marked a key milestone as successfully tested by Global Eagle Entertainment, a major In-Flight Connectivity Provider, for its IFC high-power transceiver, the Aerostream 40Ku, achieving DO-160G certification. Production units are planned to be shipped for usage in commercial aircraft, starting in the second quarter of 2021. Wavestream's AeroStream 40Ku transceiver is designed for exceptionally high-reliability, with a field-reported Mean Time Before Failure (MTBF) of greater than 30,000 flight hours. The high-power transceiver incorporates the latest in Gallium Nitride (GaN) technology and enables more return bandwidth from the plane back to the satellite than previous generations. The successful completion of environmental conditions testing for airborne equipment, DO-160G, brings the transceiver a step closer to airworthiness and Supplemental Type Certification (STC).

Australian Space Consortium to Leverage Quantum-Based Technologies

March 3, 2021 - Q-CTRL announced it will provide the first quantum sensing and navigation technologies for space exploration beginning with uncrewed lunar missions by the SEVEN SISTERS space industry consortium in Australia. Commencing in 2023, the missions are designed to find accessible water and other resources in support of NASA's Artemis program to land the first woman and next man on the Moon.

by 2024 and create a sustainable human presence for later crewed Martian exploration. Q-CTRL will develop these quantum technologies in coordination with Fleet Space Technologies, a nanosatellite startup and founder of the SEVEN SISTERS consortium. The consortium is composed of Australian firms and academic institutions developing advanced exploration technologies for Earth, the Moon and Mars. Q-CTRL will contribute new high-performance remote sensing payloads in upcoming lunar missions and beyond. Key applications will include remote detection of liquid water and mineral deposits through quantum-based gravity detection and magnetic field sensors. Quantum-enhanced precision navigation and timing (PNT) will also be deployed to provide guidance for long-endurance missions with limited telemetry contact.

Satcom Global Announces VSAT Coverage Upgrade Benefitting Customers Operating in European and Indian Ocean Waters

March 3, 2021 - Satcom Global announced another extension to its Aura VSAT maritime communications network, with the addition of two new satellite beams; Astra 4a Nordic and SES-12 IOR. The Astra 4a Nordic Ku-band beam, was introduced to the Satcom Global Aura network in December 2020, to support customers operating in European waters. With carriers optimised for the performance of smaller Ku-band terminals, Astra 4a Nordic is not only improving the performance of 60-80cm terminals in the area directly covered by the beam; specifically, the Baltic, Norwegian and Barents Seas, but is providing improved performance across all terminals for Aura VSAT customers throughout Europe. SES-12 IOR joined the Aura network in February 2021, to augment coverage and capacity across the busy sailing waters of the Indian Ocean, stretching from Eastern Africa and Madagascar, over to the West Coast of Indonesia and up to Southern India. The additional redundancy provided by the beam, is supporting the continuity of high-quality connectivity for customers operating within the region, as the Aura VSAT subscriber base continues to grow apace.

GOST Upgrades Its Vessel Tracking and Security Systems with ORBCOMM's Satellite IoT Technology

March 2, 2021 - ORBCOMM Inc. announced that Global Ocean Security Technologies (GOST), a provider of marine security, tracking, monitoring and video surveillance systems, has selected ORBCOMM's next-generation satellite IoT technology to upgrade its global vessel tracking and security systems. GOST is using ORBCOMM's new, feature-rich satellite terminal, which is powered by the IsatData Pro (IDP) satellite network and provides enhanced two-way communication speed, global coverage and low power consumption for reliable vessel tracking, monitoring and surveillance. Leveraging ORBCOMM's latest satellite IoT technology, GOST can deliver uninterrupted visibility and control for any size vessel – from tenders to ships to luxury yachts – and help protect against theft, fire, high water in the bilge, low voltage, loss of shore power and intrusion. GOST's extensive portfolio of sensors, sirens, acoustic sound barriers and flashing lights can chase off intruders and reduce threats before the vessel is ever stolen for maximum safety and security.

Zinox Provides Nigerian Schools with e-Learning Services on Spacecom's AMOS-17 Satellite

March 1, 2021 - Spacecom together with its local partner in Nigeria – Intertel, and in partnership with Zinox, a leading Nigerian internet and e-Learning service provider, has signed a multi-year contract to enable internet connectivity and e-Learning solutions for schools in Nigeria. Spacecom worked closely with its partners in Nigeria to bring this deal to fruition through utilization in C-Band High Throughput (HTS) capacity on the advanced and powerful AMOS-17 satellite. Spacecom's AMOS-17 digital and C-band HTS capabilities enable unique satellite efficiencies covering all of Nigeria with one single beam, compared to using multiple smaller beams as common with other HTS satellites. Using these advanced technological advantages enables significant economic benefits and flexibilities, such as lower Capital Expenses (CAPEX) as well as cost-effective ongoing Operating Expenses (OPEX), materializing advantage all the way to the end customer over an excellent coverage of communities.

Telespazio Acquires the Space Activities of Vitrociset

March 1, 2021 - As from March 1st, the space activities of Vitrociset will be integrated into Telespazio. The acquisition will allow Telespazio to grow yet further in strategic sectors such as space operations, in particular in the Galileo programme, in the launchers' ground segment, in radar and optical tracking systems and in weather systems supporting space launches, in particular for the VEGA programme, as well as in engineering and operational services supporting the activities of the European Space Agency. The acquisition of Vitrociset's Space BU will also enable Telespazio to expand its geographical presence in countries such as Belgium and the Netherlands, and to strengthen it in French Guiana, at the European spaceport of Kourou. As from today, therefore, the arrival of around 300 people - mainly engineers and

technicians – will allow Telespazio to consolidate its portfolio with new services and qualified competencies. Telespazio and Vitrociset had already been collaborating for years in several space programs of great significance for both Italy and Europe as a whole.

Spire Global to Go Public through Merger with NavSight Holdings, Inc.

March 1, 2021 - Spire Global, Inc. and NavSight Holdings Inc. announced they have entered into a definitive merger agreement for a business combination that would result in Spire becoming a publicly listed company. Spire collects space-based data using a proprietary constellation of multi-purpose nanosatellites called LEMUR (Low Earth Multi-Use Receiver). The Company's software analytics generate proprietary data, insights and predictive analytics for its global customers through a subscription model. Spire monetizes this information across a broad and growing number of industries including weather, aviation, maritime, and government, with global coverage and near real-time data that can be easily integrated into customer business operations. Spire is also pioneering an innovative "space-as-a-service" business model. Leveraging the Company's fully deployed infrastructure and large-scale operation, customers can operate their own payloads on orbit through Spire's API and can begin receiving data in less than a year and a simple subscription agreement.

BROADCAST

BT Chooses Blackbird for Ultra-fast and Sustainable Cloud Native Video Editing and Publishing

March 29, 2021 - Blackbird plc, the developer and seller of the market-leading cloud video editing platform, Blackbird, announced today that BT has chosen Blackbird for ultra-fast and sustainable cloud native video editing and publishing. Blackbird is the world's fastest, most powerful professional cloud native video editing and publishing platform, providing rapid access to video content for the easy creation of clips, highlights and long form content to multiple devices and platforms. Blackbird enables enterprises to scale effortlessly, drive significant productivity improvements and assist in meeting sustainability and carbon reduction targets due to the platform's highly efficient cloud native architecture. BT will deploy Blackbird for high performance, scalable cloud native editing and publishing of content for its media operations. Working in conjunction with the Head of Content Operations, Pete Harvey, the Content Operations team will use Blackbird to access and edit multiple live broadcast streams of sports and other content for the fast production of assets for downstream distribution to over the top (OTT) and video on demand (VOD) channels for viewers to enjoy.

SES Announces Total Reach of 361 Million TV Homes Worldwide

March 23, 2021 - SES announced today the results of its annual Satellite Monitor market research, the industry's premier accounting of satellite's TV reach, which underscore SES's established position as a leader in enabling direct and indirect content delivery via satellite. SES continues to lead the industry by delivering 8,265 channels, with almost 3,000 of them in HD, to a total of 361 million households worldwide. This year's Satellite Monitor survey showed continued growth across Europe (+2 million households) and Africa (+2 million households). At SES's prime orbital neighbourhood of 19.2 degrees East, SES's satellites now serve an unparalleled 118 million households or over 43 percent of all European TV homes. The number of TV homes receiving HD content from 19.2 degrees East also continued to increase to 84 percent, representing an increase of almost 30 percent over the past five years. In Africa, SES has also seen its TV reach increase in the Ethiopian TV market as a result of establishing Ethiopia's first-ever dedicated TV platform, Ethiosat, on NSS-12 at 57 degrees East. The TV penetration in Ethiopia has tripled compared to four years ago and is at 49 percent in YE 2020. Overall, SES's reach to TV homes is marginally down this year largely due to a change in reporting methodology implemented by the regulatory authority in India requiring a new definition of active subscribers.

Globecast Receives TPN Certification across Asia, UK and France Providing Essential Customer Confidence

March 17, 2021 - Globecast has announced that it has successfully received security assessment from Trusted Partner Network (TPN) across its complete Asian, UK and French operations, including TPN renewal of its Digital Cinema business in France. This brings the additional confidence required by customers across all security aspects. Globecast is now fully TPN-certified across its Asian operations, based in its Singapore Media Centre, its UK business, located at its Media Centre in London, as well as across its operations in France. The certification covers all aspects of the business in these regions across the content acquisition, management, playout and distribution chains, ensuring maximum security across all elements of the business. The Trusted Partner Network (TPN) is a joint venture between two major

entertainment industry associations, the Motion Picture Association (MPA) and the Content Delivery & Security Association (CDSA), the worldwide leaders in third-party entertainment industry assessments. The TPN establishes a single benchmark of minimum security preparedness for all vendors and their teams, wherever they work, and whatever their specialty. By creating a single, global directory of “trusted partner” vendors, content companies will have access to a centralised database to learn their TPN status. The TPN program seeks to raise security awareness, preparedness, and capabilities within our industry.

ATEME to Support China’s Video Industry with AVS2 Integration

March 11, 2021 - ATEME, the leader in video delivery solutions for broadcast, cable, DTH, IPTV and OTT, has announced it has integrated the second-generation Audio Video Standard (AVS2) into its TITAN range of products. AVS2 is the digital audio and video compression standard formulated by the Audio and Video Coding Standard Workgroup of China which aims to meet the needs of China’s audio and video industry. By integrating AVS2 into ATEME’s TITAN solutions, ATEME reinforces its commitment to the Chinese market. ATEME has a solid reputation in China for being a reliable provider of innovative video processing solutions. This latest development comes as the Chinese video industry continues to face a changing landscape with an increasing number of cable operators powering UHD broadcast and OTT services. ATEME’s Chinese customers, all of whom are major tier-1 players, are now able to take advantage of high video quality at lower bitrate and HDR technology to offer viewers an amazing quality of experience. Positioned as an alternative solution to HEVC or AV1 on the Chinese market, AVS2’s primary application is Ultra HD video, supporting the efficient compression of ultra-high-resolution (4K and above) and HDR.

Wasabi Partners with Primestream for Faster Hybrid Media Production Integrated Solution

March 10, 2021 - Wasabi, the hot cloud storage company, today announced a new partnership with Primestream™, a leading provider of asset management and automation software solutions for media production, to deliver Primestream’s Xchange™ media asset management (MAM) platform to media professionals worldwide. With the new solution, the Xchange MAM system will provide a high performance, hybrid platform integrating Wasabi storage for global asset management, archiving, content contribution, production and distribution. Professional media production teams rely on Xchange to maintain an organized media library across various storage environments to power the production process from rough-cut editing to finishing to publication. Xchange features rich, AI-powered metadata tagging that allows artists to rapidly find and retrieve the assets they need, saving time and money.

ATEME and NPAW Partner to Offer Their Solutions Free of Charge to Referred Customers

March 2, 2021 - ATEME, the leader in video delivery solutions for broadcast, cable, DTH, IPTV and OTT, announces it has entered into a partnership with NPAW (Nice People At Work), the video intelligence company developing the most complete solution for holistic video analytics in the market. The partnership aims to offer customers of both companies a free trial version of key solutions designed to enhance the Quality of Experience for viewers of video content. With this new partnership in place, every ATEME customer will be able to benefit from the real-time streaming video analytics solution from NPAW, YOUBORA, and its actionable monitoring and deep analysis of streaming performance and video usage, free of charge for a period of 90 full days. The offer includes fully customizable dashboards with all relevant KPIs on audience, content and quality, with unlimited multi-filter possibilities by dimensions or metric. These dashboards enable the marketing, operations, and engineering teams to make data-driven decisions, troubleshoot in real time, and improve the perceived quality of the service.

LAUNCH / SPACE

Gilmour Space to Launch Fleet Satellites in 2023

March 30, 2021 - Two of Australia’s New Space pioneers – Queensland rocket manufacturer Gilmour Space Technologies, and South Australian nanosatellite manufacturer for the Internet of Things (IoT), Fleet Space Technologies – are joining forces to launch small satellites to orbit. Gilmour and Fleet were the first New Space start-ups to raise venture capital funding in Australia, well before the formation of the Australian Space Agency. They were seeded by Sydney-based venture capital firm Blackbird Ventures, which has since invested in subsequent rounds.

SSC Launches SSA Program for Safer and More Sustainable Space Operations

March 30, 2021 - Swedish Space Corporation (SSC) launches a new program within Space Situational Awareness (SSA), aiming at contributing to safer and more sustainable space operations. The program will consist of several initiatives addressing detection, tracking, identification of man-made space objects as

well as processing, cataloging and analysis of SSA data. As modern society grows more and more dependent on space technology, driven by the ever-growing need for Space-to-Earth infrastructure, the near-Earth space is becoming more and more crowded. Rapid launches of satellite constellations into popular orbits increase the probability of congestion and the risk of collisions, potentially jeopardizing crucial space missions and also causing financial risks. The growing need for SSA services by the space sector, including tracking and monitoring satellites and other anthropogenic objects in space, will now become yet another domain for SSC to explore. Through a number of initiatives, SSC's SSA program will address the necessity for thorough analysis and monitoring of the increasing number of conjunction events, as well as contribute to reaching a basis for consensus on the exact location of satellites and debris.

Maxar Delivers Spacecraft Bus for NASA's Psyche Mission

March 29, 2021 - Maxar Technologies today announced the delivery of the Solar Electric Propulsion (SEP) Chassis to NASA's Jet Propulsion Laboratory (JPL) for the NASA Discovery Mission, Psyche. The SEP Chassis is based on Maxar's 1300-class platform, the world's most trusted spacecraft, which provided NASA the opportunity to budget, design and build the historic Psyche mission on flight-proven, commercially developed hardware. The NASA Psyche mission is expected to launch in August 2022 to explore an asteroid orbiting between Mars and Jupiter, which is likely made largely of metal and may be core material from an early planet. The Psyche spacecraft will travel more than 1 billion miles and arrive at the asteroid in 2026, where it will spend 21 months orbiting the 140 mile-wide asteroid, mapping it and studying its properties.

RSCC's Express-103 Satellite Enters Commercial Service

March 26, 2021 - On March 25, 2021, Express-103 spacecraft was put into operation, joining the orbital constellation of Russian Satellite Communications Company (RSCC) at 96.5° E. All in-orbit flight tests of the service systems module and the payload of Express-103 satellite were carried out in full and with positive results. The new communication satellite is designed to provide digital TV and radio broadcasting, high-speed Internet access and data transmission. It also provides maritime VSAT and in-flight connectivity services in Russia and abroad. Today RSCC runs Russia's largest orbital constellation, which consists 12 GEO satellites operating in the C-, Ku-, Ka- and L-bands. The orbital constellation is located on an arc of a geostationary orbit from 14 degrees west to 140 degrees east, enabling RSCC to provide services to clients in 58 countries on all continents.

JAXA and NTT DATA Launch Joint Research on Space-borne Laser Altimeter to Create 3D Map

March 26, 2021 - Japan Aerospace Exploration Agency (JAXA), the Japanese national aerospace and space agency, and NTT DATA Corporation, a leading digital business and IT services provider, will jointly conduct research to enhance the precision of three-dimensional mapping using laser altimeters (LIDAR1) mounted on a satellite or other spacecraft. The purpose of this joint research is to solve the technical challenges in 3D mapping from satellites over forest areas covered with trees and vegetation, and to improve the accuracy of 3D maps used in a variety of fields such as disaster response and management as well as preparing various types of hazard maps in the world. The research period will be from January 2021 to March 2022. JAXA has been conducting research and development on earth observation using laser altimeters. In this joint research, JAXA will study the technology to measure the height of the ground surface more accurately using space-borne laser altimeter data to contribute to the improvement of the 3D mapping. NTT DATA has been providing digital 3D maps named AW3D2, which are the world's most precise pre-produced global digital elevation models and have been used in over 2,000 projects in more than 130 countries. In this joint research, NTT DATA will study the technology to create a more accurate digital terrain model by combining satellite-derived digital elevation models with the elevation of the ground surface measured by the space-borne laser altimeter.

SKY Perfect JSAT Signs Contract with Airbus to Build Superbird-9 Telecommunications Satellite

March 25, 2021 - SKY Perfect JSAT Corporation has selected Airbus to build Superbird-9, a fully digital in-orbit reconfigurable telecommunications satellite. The satellite will be based on Airbus' standardised OneSat product line. Airbus will provide a turnkey solution, including design and manufacture of the Superbird-9 spacecraft, associated services and support for in-orbit operations and ground segment, as well as an advanced digital suite to manage the digital payload and operate the end-to-end satellite resources. OneSat will allow SKY Perfect JSAT to replace a key broadcasting mission and to simultaneously deliver fully flexible HTS (High Throughput Satellites) services with powerful performance and a ground-breaking experience for their customers. Superbird-9 will deliver broadcast and broadband missions in Ku band primarily over Japan and Eastern Asia. It will bring day-to-day flexibility for the SKY Perfect JSAT

fleet enabling payload missions to be configured, adapted and combined to perfectly match end-user needs. This covers everything from DTH broadcasting to broadband HTS including maritime and aero-connectivity services, utilizing the latest innovations in payload technology and in-orbit resource management.

Arianespace Successfully Deploys OneWeb Constellation Satellites

March 25, 2021 - Today's launch, Flight ST30, was the 55th Soyuz mission carried out by Arianespace and its Starsem affiliate. Performed on Thursday, March 25 at precisely 11:47 a.m. local time at Russia's Vostochny Cosmodrome (02:47 a.m. UTC), Flight ST30 orbited 36 new OneWeb satellites – bringing the size of the fleet in orbit to 146. Arianespace has launched 146 OneWeb satellites to date. Soyuz successfully orbited the initial six from French Guiana during February 2019. In February and March 2020, Arianespace and its Starsem affiliate successfully launched 68 OneWeb satellites from Baikonur Cosmodrome, as well as an additional batch of 36 satellites from the Vostochny Cosmodrome during December 2020. Pursuant to an amended launch contract with OneWeb, Arianespace will perform 14 more Soyuz launches through 2021 and 2022. These launches will enable OneWeb to complete the deployment of its full global constellation of low Earth orbit satellites by the end of 2022. The satellite prime contractor is OneWeb Satellites, a joint venture of OneWeb and Airbus Defence and Space. The satellites were produced in Florida, USA in its leading-edge satellite manufacturing facilities that can build up to two satellites per day on a series production line dedicated to spacecraft assembly, integration, and testing.

CSIRO's Dish to Support One of the First Commercial Moon Landings

March 25, 2021 - The iconic Parkes radio telescope, owned and operated by Australia's national science agency, CSIRO, will help businesses to literally reach for the Moon by providing ground station support for one of the first commercial lunar landings later this year. CSIRO has signed a new five-year agreement with Houston-based aerospace company Intuitive Machines to support multiple lunar missions, including their first flight under NASA's Commercial Lunar Payload Services (CLPS) initiative. The Parkes telescope, also known as Murriyang, is valuable for spacecraft tracking due to its large dish surface and advanced data acquisition systems, which are used primarily for astronomy research. The 64-metre telescope will be the largest and most sensitive receiving ground station for Intuitive Machines' upcoming missions, maximising the return of the scientific and engineering data for the lunar exploration program.

BlackSky Accelerates Constellation Deployment with Five Rocket Lab Launches

March 25, 2021 - BlackSky today reported it has secured five Rocket Lab missions to deploy nine satellites between March and the end of 2021. The first of these launches took place on March 22, 2021. The company is accelerating the deployment of its constellation of Gen-2, high-revisit, high-resolution imaging satellites and expects to deliver capabilities in 2021 that were originally planned for delivery in 2022. These launch missions enable BlackSky to fast-track its plans to offer one-hour average dawn-to-dusk imaging revisits and 90-minute average delivery times for its customers. In 2023, BlackSky expects to begin including its recently announced Gen-3 satellites, which are intended to have 50 cm resolution and short-wave infrared (SWIR) for low light and nighttime imaging capabilities, moving toward the completion of its projected 30-spacecraft constellation. The multi-launch agreement, inked with launch services provider Spaceflight Inc. who will manage the integration and launch services for BlackSky, includes the launch of nine BlackSky satellites across five Electron missions this year.

EUMETSAT and Arianespace Confirm the Launch of Two Meteosat Third Generation Satellites with Ariane 6

March 23, 2021 - EUMETSAT and Arianespace have signed an update of their Launch Services Agreement for two Meteosat Third Generation (MTG) satellites. Through this updated agreement, Arianespace is confirmed by EUMETSAT to launch the sounder satellite MTG-S1 and the imager satellite MTG-I2 with Ariane 6, the next generation of Ariane family of launchers. This updated agreement follows EUMETSAT's signature, during December 2020, of the "joint statement on the institutional exploitation of Ariane 6 and Vega C" in favor of a European preference for launchers on institutional missions in Europe. The launch planning will see MTG-S1 satellite be placed into orbit in the first half of 2024, while the MTG-I2 would be planned for the second half of 2025 onwards. In both cases, the satellites will be reaching Geostationary Earth Orbit, a destination made reachable by high-standard capacities of Ariane 6. Both organizations also confirmed that Arianespace will place into orbit the MTG-I1 satellite with an Ariane 5 launcher by the end of 2022. The launch orderbook includes two more state-of-the-art meteorological polar satellites (METOP-SG A1 and METOP-SG B1) as well as one additional launch, still in option.

Astroscale Celebrates Successful Launch of ELSA-d

March 23, 2021 - Astroscale Holdings Inc. confirmed the successful launch of its End-of-Life Services by Astroscale demonstration (ELSA-d) mission. This marks the start of the world's first commercial mission to prove the core technologies necessary for space debris docking and removal. ELSA-d, which consists of two satellites stacked together – a servicer designed to safely remove debris from orbit and a client satellite that serves as a piece of replica debris – was launched by GK Launch Services into a 550 km orbit on a Soyuz rocket from the Baikonur Cosmodrome in Kazakhstan on Monday, March 22, at 6:07 am (UTC). Following additional preparatory steps in orbit, ELSA-d will enter the next phase of this pioneering mission to demonstrate the technologies and capabilities necessary for debris capture and removal. In the first of three complex demonstrations, the servicer satellite will release, and then dock magnetically, with the client satellite. Following this demonstration of non-tumbling capture, ELSA-d will perform two additional demonstrations: one to capture the client while it is tumbling, and one to deliberately lose, re-locate, approach and re-capture the client from far-range. Each of these demonstrations will take Astroscale one step closer towards delivering commercial debris removal and other on-orbit services.

NanoAvionics Expands into Microsatellite Market with MP42 Bus

March 2021 - Smallsat mission integrator NanoAvionics aims to capture a share of the lucrative microsatellite segment with the first modular microsat bus in the industry, the "MP42". With 10,000 smallsats scheduled to be launched over the next 10 years, NanoAvionics expects to grow fivefold in size across its entire service portfolio for nano- and microsatellite missions and produce about 120 satellites per year by 2025. NanoAvionics' microsatellite buses are the latest addition to the company's end-to-end smallsat mission infrastructure aimed at constellations, covering mission design, production, launch brokering, ground segment and satellite operations. By repeating its successful and cost-efficient approach for nanosatellite bus design, manufacturing and integration, NanoAvionics estimates to provide similar cost savings with its microsats. It allows companies to reduce their CAPEX, receive rapid integration and deploy their spacecraft much quicker compared to other existing solutions in the market without compromising on quality and reliability. NanoAvionics significantly shortens the time to customize a satellite and lowers the overall price of a spacecraft by keeping about 80% of the flight-proven architecture consistent for each mission and by using modular subsystem manufactured in advance and in larger quantities.

Lockheed Martin and Omnispace Explore Space-based 5G Global Network

March 23, 2021 - Omnispace and Lockheed Martin have entered into a strategic interest agreement to explore jointly developing 5G capability from space. The proposed global 5G standards-based non-terrestrial network (NTN) would offer commercial, enterprise and government devices ubiquitous communications worldwide. This type of network has the potential to redefine mobile communications, benefiting users requiring true mobility, regardless of environment or location. Omnispace's vision is 'one global network' that will combine the reach of a non-geostationary orbit satellite constellation with the capacity of the world's leading mobile wireless carrier networks. This 5G NTN will leverage the company's priority 2 GHz S-band spectrum rights and employ 3GPP standards to enable direct-to-device connectivity and interoperability. In collaboration with Lockheed Martin, this hybrid 5G network would provide the coverage and capacity to support essential applications requiring seamless, reliable, global communications.

Eutelsat Procures EUTELSAT 36D Satellite from Airbus

March 22, 2021 - Eutelsat Communications has signed a contract with Airbus for the procurement of EUTELSAT 36D to succeed EUTELSAT 36B, expected to reach its end of life at the end of 2026, at its key 36° East orbital position. With coverage of Africa, Russia and Europe, 36° East is a key orbital slot for Eutelsat, ranking third in terms of overall revenue generation, after 13° East (HOTBIRD) and 7/8° West, and second for Government Services, with an exceptional fill rate reflecting the ongoing robust demand in its footprint. Its two satellites, EUTELSAT 36B and EUTELSAT 36C, together notably support the broadcast businesses of major anchor customers including Multichoice and ZAP in Africa and Tricolor and NTV+ in Russia. With 70 physical Ku-band transponders, the all-electric EUTELSAT 36D will assure all the main legacy missions of EUTELSAT 36B, with enhancements to coverage areas and performance. Based on the state-of-the-art Airbus Eurostar Neo platform, it combines increased payload capacity and more efficient power and thermal control systems with reduced production time and optimised costs.

Rocket Lab Successfully Launches 19th Electron, Deploys 100th Satellite

March 22, 2021 - Rocket Lab has successfully launched its 19th Electron mission and deployed six

spacecraft to orbit for a range of government and commercial customers. The mission, named 'They Go Up So Fast,' also deployed Rocket Lab's latest in-house manufactured Photon spacecraft to build flight heritage ahead of the upcoming CAPSTONE mission to the Moon for NASA. The mission launched from Rocket Lab Launch Complex 1 on New Zealand's Mahia Peninsula at 22:30, March 22, 2021 UTC, successfully deploying an Earth-observation satellite for BlackSky Global through Spaceflight Inc; two Internet of Things (IoT) nanosatellites for Australian commercial operators Fleet Space and Myriota; a test satellite built by the University of New South Wales (UNSW) Canberra Space in collaboration with the Royal Australian Air Force; a weather monitoring CubeSat for Care Weather Technologies; and a technology demonstrator for the U.S. Army's Space and Missile Defense Command (SMDC). The mission took the total number of satellites deployed to orbit by Rocket Lab to 104.

Dubai Municipality Announces Launch of DMSat-1 Built by SFL

March 22, 2021 - Dubai Municipality has announced the successful launch and deployment of DMSat-1, an atmospheric monitoring microsatellite built by Space Flight Laboratory (SFL). DMSat-1 launched from the Baikonur Cosmodrome in Kazakhstan aboard a Soyuz rocket. SFL developed DMSat-1 under contract to the Dubai-based Mohammed Bin Rashid Space Centre (MBRSC) in the United Arab Emirates (UAE). The 15-kg microsatellite was built on SFL's space-proven Next-generation Earth Monitoring and Observation (NEMO) platform. SFL was selected to build DMSat-1 for its compact size and performance, including the mission-critical importance of attitude control and precise sensor pointing. SFL has developed high-performance ground target tracking capabilities that enable the small satellite to execute a slewing maneuver in orbit to accurately point its sensors at selected swaths of the atmosphere.

Spaceflight Awarded NASA LLITED Launch Contract

March 21, 2021 - Spaceflight Inc. has been awarded a launch service contract for the integration and launch of NASA's LLITED mission, two 1.5U spacecraft. Spaceflight Inc. will transport the NASA Low-Latitude Ionosphere/Thermosphere Enhancements in Density (LLITED) CubeSats to low Earth orbit on its Sherpa-LTC orbital transfer vehicle (OTV) at the end of the year aboard a SpaceX Falcon 9. For this mission, the Sherpa-LTC, which uses chemical propulsion from Benchmark Space Systems, will make its initial spacecraft deployments and then ignite and maneuver to another orbital destination to deploy the NASA CubeSats. The LLITED mission is a grant awarded to The Aerospace Corporation through NASA's Division of Heliophysics in the Science Mission Directorate and was selected for flight by the agency's CubeSat Launch Initiative (CSLI). As a U.S. government direct procurement, Spaceflight is the prime contractor to NASA for the mission and the launch service is led by NASA's Kennedy Space Center Launch Services Program. The LLITED team includes scientists and engineers from The Aerospace Corporation, Embry-Riddle Aeronautical University, and University of New Hampshire.

Arianespace Signs Long-term Supply Agreement with Avio for 10 Additional Vega C Launchers

March 19, 2021 - During a recent meeting in Rome between Bruno Le Maire, French Minister of the Economy, Finance and Recovery, and Giancarlo Giorgetti, Italian Minister of Economic Development, Arianespace announced the signature of an agreement with Avio to start production of 10 new Vega C launch vehicles. This agreement kicks off the procurement of long lead-time items and the initial activities for the production of 10 new launchers, to be delivered from 2023. Arianespace, the European launch services company, announced today the signature of an agreement with Avio, industrial prime contractor for the Vega and Vega C launchers, to start production of a batch of ten new Vega C rockets, to be launched as from 2023. Vega C launchers produced within Batch 4 will serve institutional and commercial missions from 2023 onwards; in particular, they will contribute to the fulfillment of strategic objectives selected by European institutions, either collectively through ESA and the European Commission, or for national purposes. Thus, 2021 will see the contracting by Arianespace of launch services for the next nine Copernicus satellites within the Multiannual Financial Framework 2021-2027 of the European Commission.

Express-80 Spacecraft Commissioned as Part of the RSCC Satellite Constellation

March 18, 2021 - March 15, 2021 saw the commissioning of Express-80 communications and broadcasting satellite. The satellite belongs to the RSCC orbital constellation at 80° E. The Express-80 flight tests were carried out in full and with positive results. The Express-80 satellite is designed to support as follows: fixed and mobile services; digital TV and radio broadcasting; high-speed Internet access, and data transmission in the Russian Federation and abroad. The Express-80 spacecraft was launched into geostationary orbit from the Baikonur Cosmodrome on July 31, 2020. The satellite was manufactured by the leading Russian enterprise in the rocket and space industry - JSC ISS Reshetnev Company jointly with

Europe's Thales Alenia Space company. The Express-80 spacecraft service life is 15 years.

NASA and SpaceX Sign Joint Spaceflight Safety Agreement

March 18, 2021 - NASA and SpaceX have signed a joint agreement to formalize both parties' strong interest in the sharing of information to maintain and improve space safety. This agreement enables a deeper level of coordination, cooperation, and data sharing, and defines the arrangement, responsibilities, and procedures for flight safety coordination. The focus of the agreement is on conjunction avoidance and launch collision avoidance between NASA spacecraft and the large constellation of SpaceX Starlink satellites, as well as related rideshare missions. A conjunction is defined as a close approach between two objects in space, usually at very high speed. The Starlink spacecraft are equipped with global navigation satellite service receivers to estimate orbital parameters, an ion propulsion system, and an autonomous maneuvering capability that provide data for prompt and proactive exchange of information. Both NASA and SpaceX benefit from this enhanced interaction by ensuring all parties involved are fully aware of the exact location of spacecraft and debris in orbit. SpaceX has agreed its Starlink satellites will autonomously or manually maneuver to ensure the missions of NASA science satellites and other assets can operate uninterrupted from a collision avoidance perspective. Unless otherwise informed by SpaceX, NASA has agreed to not maneuver its assets in the event of a potential conjunction to ensure the parties do not inadvertently maneuver into one another.

FAA Approves Renewal of Orbital Sciences Launch Operator Licenses

March 17, 2021 - After completing a comprehensive review, the FAA has approved the renewal of two Launch Operator Licenses for Orbital Sciences, a subsidiary of Northrop Grumman. The licenses are valid for five years and authorize the company to conduct flights of its Pegasus launch vehicle from the Wallops Flight Facility in Virginia and the Cape Canaveral Space Force Station in Florida. Orbital Sciences must still receive FAA authorization for specific launches. The Pegasus operates by being attached to a carrier aircraft and launched while airborne to deliver payloads to low earth orbit. The FAA's top priority in regulating commercial space transportation is that launch and reentry operations are safe for the public. The agency protects public safety by licensing commercial launch and reentry activities and monitoring regulatory compliance in all phases of FAA-licensed operations. It also issues safety approvals for launch and reentry vehicles, various safety systems and the personnel performing licensed activities. An FAA license is required to conduct any commercial launch or reentry, the operation of any launch or reentry site by U.S. citizens anywhere in the world, or by any individual or entity within the United States.

Pixxel to Launch the World's Highest Resolution Hyperspectral Smallsat Constellation

March 17, 2021 - Today, Pixxel announced the close of a \$7.3M seed round with new capital from Omnivore VC, Techstars, and others, who are joining alongside Lightspeed Ventures, Blume, growX, Ryan Johnson, former President at Planet Labs, and additional industry leaders. Additionally, for the first time today, Pixxel came out of stealth and publicly announced its mission to build the world's highest resolution hyperspectral satellite constellation. The company's first hyperspectral satellite will launch within the next few months. Compared to the common multispectral satellites prevalent today, Pixxel's hyperspectral earth-imaging satellites are able to beam down 50x more information by capturing light reflected in far more detail and using narrower bands beyond just red, green and blue. This technology allows Pixxel to capture exact chemical signatures and offers more accurate solutions to previously unsolvable issues in industries such as agriculture, energy and environmental conservation. Once deployed, Pixxel's constellation will provide 24-hour global coverage in higher quality resolution and at a lower cost than any existing satellite competitors. Hyperspectral imaging has the power to help with pressing issues that are invisible to today's satellites such as flagging pest infestations and crop diseases, tackling air and water pollution levels and detecting oil spills and gas leaks. Pixxel's imagery and platform provide a one-stop shop for geo-spatial insights.

Anywaves Partners with Loft Orbital

March 16, 2021 - The Franco-American company Loft Orbital has enlisted Anywaves to carry the French manufacturer S-band antenna onboard the YAM-3 microsatellite. Scheduled to fly on a SpaceX Falcon 9 in June 2021, this first collaboration between the two space actors establishes the foundations of a strong and long-term partnership. In addition to the delivery of two space antennas in an especially short timeline of one week, this first step exemplifies both companies' willingness to enter into a strong partnership, with long-term prospects. YAM-3, short for "Yet Another Mission", will fly various payloads for multiple customers' missions such as precision positioning, earth observation and IoT; which is the mission addressed by Anywaves' antennas after this upcoming June launch.

Department of Defense Awards Relativity Space New Responsive Launch Contract

March 15, 2021 - Relativity Space awarded its first orbital launch contract with the U.S. Department of Defense (DoD), facilitated by the Defense Innovation Unit (DIU). This contract was awarded as a Space and Missile Systems Center (SMC) Launch Enterprise follow-up effort to the DoD Space Test Program (STP) Rapid Agile Launch Initiative (RALI) to identify capable commercial solutions for low-cost, responsive access to space “as a service” using launch systems with capacity between 450-1,200 kg to low-Earth orbit (LEO). Relativity’s entirely 3D-printed launch vehicle, Terran 1, meets the DoD’s needs for disruptive launch solutions to orbit. DIU works to strengthen America’s national security by accelerating the adoption of leading commercial technology and giving innovative American businesses the opportunity to solve high-impact national security problems. This mission aligns with Relativity’s ambitions to revolutionize how rockets are designed, built, and flown with the world’s first entirely 3D-printed rocket. This agreement represents the ninth announced launch customer for Relativity and the third announced government customer, following the recently announced Venture Class Launch Services Demonstration 2 contract with NASA.

Airbus Pioneers First Satellite Factory in Space

March 11, 2021 - Airbus has been selected by the European Commission to study spacecraft manufacturing in space through the Horizon 2020 Programme. The PERIOD (PERASPERA In-Orbit Demonstration) project focuses on satellite assembly and manufacturing in orbit. This A/B1 phase study contract, worth € 3 million, will last two years, with the objective to continue with a demonstrator in orbit. The “orbital factory” envisioned by PERIOD will pioneer construction of major components such as antenna reflectors, assembly of spacecraft components and satellite payload replacements, directly in space. This is the precursor to future manufacturing of large structures in orbit. Producing directly in orbit will revolutionize the way space systems are designed, built and operated. It has significant advantages over the traditional approach – where everything is produced on Earth and subsequently transported to space – since objects made in space are freed from the constraints and requirements of launch (launcher mass and volume limitations, structural strength to withstand launch). To achieve this goal, Airbus Defence and Space in Bremen, is leading a team of seven European innovators, bringing their own expertise in fields such as robotic operation, virtual reality, and in-space assembly: DFKI, EASN-TIS, GMV, GMV-SKY, ISISPACE, SENER Aeroespacial and Space Applications Services.

ESA Defines Elements of Future European Space Transportation Solutions

March 11, 2021 - Space transportation technologies are intrinsically complex, some needing long development cycles of up to a decade. For this reason, ESA is seeking early insights into long-term trends and potential evolutions in all application domains taking into account the needs of future programmes currently under preparation. For this purpose, ESA has signed, within its New European Space Transportation Solutions (NESTS) initiative, study contracts each worth €500 000, with ArianeGroup, Avio and Rocket Factory Augsburg (a subsidiary of OHB SE). These companies are tasked with carrying out research over the next few months. This will enable them to identify and recommend preliminary elements for future space transportation solutions to be exploited in the period 2030–50. The studies will be completed before summer 2021 and will feed the preparation of proposals to be submitted for decision at the next Council Meeting at Ministerial level in 2022.

Aurora Propulsion Technologies Expands Relationship with Momentus

March 10, 2021 - Expanding on its existing relationship with Momentus, Aurora is announcing its plans to launch a satellite with Momentus in June 2022. Aurora offers a unique portfolio of small satellite propulsion devices, including Resistojet thrusters, plasma brakes and the upcoming E-sail for deep space missions. Auroras Resistojets offer a compelling thrust to power ratio, with up to 5mN of thrust, excellent control and quick response times. This makes the thrusters optimal for spacecraft attitude control, collision avoidance manoeuvres and for example docking operations in space. The Plasma Brakes enable deorbiting satellites at the end of their useful lifetime ensuring future generations a clean space. In addition to the products Aurora also offers manufacturing services of space grade high precision mechanical components as well as services in space craft and mission design from its home base in Finland.

NASA, Blue Origin Partner to Bring Lunar Gravity Conditions Closer to Earth

March 9, 2021 - At one-sixth that of Earth, the unique gravity of the lunar surface is one of the many variable conditions that technologies bound for the Moon will need to perform well in. NASA will soon have more options for testing those innovations in lunar gravity thanks to a collaboration with Blue Origin

to bring new testing capabilities to the company's New Shepard reusable suborbital rocket system. Currently, NASA can approximate the Moon's gravity on parabolic flights and in centrifuges on suborbital vehicles – both invaluable options for maturing promising innovations. But these methods provide only seconds of lunar gravity exposure at a time or limit the payload size, compelling NASA to explore longer-duration and larger size options. Blue Origin's new lunar gravity testing capability – projected to be available in late 2022 – is answering that need.

OHB and ESA Sign Contract for Arctic Weather Satellite

March 9, 2021 - OHB Sweden AB and the European Space Agency ESA signed the contract for the Arctic Weather Satellite (AWS) programme. The AWS is a part of ESA's Earth Watch programme, and the AWS satellite will be the proto-flight model for a possible constellation of satellites. The total value of the contract amounts to EUR 32.5 million. The contract includes the development of the satellite and its payload, the development of the ground segment and also the preparation activities for the AWS constellation. The AWS will improve weather forecasts in the polar regions, but also globally. As the prime contractor, OHB Sweden leads an industrial consortium comprising companies from twelve countries. The AWS core consortium consists of OHB Sweden, Omnisys Instruments as instrument prime contractor and Thales Alenia Space as prime contractor for the ground segment.

Kleos Targets Late 2021 SpaceX Launch for its Third Satellite Cluster

March 9, 2021 - Kleos Space has signed a new contract with rideshare provider Spaceflight Inc. to launch its third satellite cluster (KSF2) in December 2021 aboard a SpaceX Falcon 9 rocket, further growing the constellation. The four KSF2 Polar Patrol Mission satellites will launch into a 500-600km Sun Synchronous orbit, complementing Kleos' first and second satellite clusters and increasing cover over key maritime areas of interest (e.g. double the coverage over both Poles). Kleos' second satellite cluster – the Polar Vigilance Mission – has recently completed a key development milestone and remains on track for a mid-2021 launch aboard a SpaceX Falcon 9. Commissioning and data collection from Kleos' initial Scouting Mission satellites, which launched from India into a 37-degree inclination in November 2020 is nearing completion. While Kleos is targeting a constellation of up to 20 satellite clusters, each cluster will increase the volume of data that can be sold and provide further insights as to activity in key areas of interest for our customers.

Redwire Selected as Solar Array Supplier for PlanetiQ Constellation Spacecraft

March 9, 2021 - Redwire has been selected by PlanetiQ, a commercial weather satellite constellation operator, to supply solar arrays for their HD GPS-RO weather satellites. The contract will include delivery of a 130-watt solar array for PlanetiQ's spacecraft. The agreement marks PlanetiQ's third flight contract for Redwire's solar arrays. Previously, Redwire's subsidiary Rocco delivered two sets of solar arrays to PlanetiQ, dating back to 2018. In June 2021, PlanetiQ launches their next GNSS Navigation and Occultation Measurement Satellite (GNOMES) on the Transporter 2 launch out of Cape Canaveral. The satellite is designed to provide radio occultation data to improve weather forecasting and climate research and to help monitor space weather. The company is building additional satellites to launch in the next two years as it builds out a full constellation of 20 low Earth orbit satellites that will gather near real-time, high-quality weather, climate and space weather data.

Telespazio Transfers the Payload Data Processing System of the European Copernicus Programme's Sentinel-3 Satellites to Public Cloud

March 4, 2021 - Telespazio has successfully migrated the data processing infrastructure of the European Space Agency (ESA) Sentinel-3 mission to the commercial cloud. In the past, these activities took place in a physical infrastructure hosted at three different sites in Europe. In recent days, ESA has given go-ahead for the Sentinel-3 mission's a switch-off of the physical scientific data processing infrastructure. The switch-off has been confirmed after an observation period lasting one month, on which the two infrastructures (physical and cloud) have been jointly operated. Telespazio has managed the entire design, development, qualification and roll-down to operation of the data processing system, adapting it to the new technologies and ensuring the best possible performance from a cloud platform. The migration process was approached by consecutive steps, starting from migration of the acquisition systems to migration of the various data processing centres. The two Sentinel-3 mission satellites, launched in 2016 and 2018, belong to the European Copernicus programme to monitor the Earth's environment managed by the ESA and the European Commission. When fully operational the mission, for which Telespazio is responsible for the operations, maintenance and development of the ground segment for data processing, will comprise 4 satellites (for which the prime construction contractor is Thales Alenia Space, a joint venture between

Thales 67% and Leonardo 33%) equipped with systems to monitor the oceans, the atmosphere and the Earth's surface. Among these the SLSTR (Sea and Land Surface Temperature Radiometer), developed by Leonardo, will provide valuable meteorological and climatological support. The Sentinel-3 ground segment is capable of providing products in real time, just 3 hours after data acquisition by the on-board instruments. The transfer of the Sentinel-3 mission's entire ground segment to the public cloud enables an optimisation of its computing resources by around 40 per cent, increasing the system's reliability and resilience while ensuring that all users have the same amount of time to access information.

Thales Alenia Space to Build 6 Satellites of the 2nd Generation Galileo Constellation

March 3, 2021 - Thales Alenia Space has signed a 772M EUR contract with the European Space Agency (ESA), acting in the name and on behalf of the European Union represented by the European Commission, to provide 6 satellites part of the 2nd Generation of Galileo constellation. The first satellites of this second generation will be placed in orbit by the end of 2024. With their new capabilities relying on high innovative technologies (digitally configurable antennas, inter-satellites links, use of full electric propulsion systems), these satellites will improve the accuracy of Galileo as well as the robustness to interference and jamming and resilience of its signal. This will be key for the upcoming digital decade and will support more security & defense usages. Among its objectives, the Galileo 2nd Generation satellites will boost the EU industry competitiveness in the highly strategic domain of technologies for EU sovereignty.

Spaceflight Signs Multiple Launch Agreements to Start 2021

March 3, 2021 - Spaceflight Inc., has started the year by signing several significant launch agreements with a wide range of organizations, including growing constellations needing routine and reliable launch schedules, smaller payloads requiring affordable bus-like options to popular orbits, firms needing regulatory and logistical guidance, as well as those seeking a personalized taxi service from loading dock to final orbital destination. Organizations that recently signed launch deals with Spaceflight include Lynk, Astro Digital, Kleos, BlackSky, Umbra, Orbit Fab and several undisclosed U.S. government payloads.

Rocket Lab Unveils Plans for New 8-ton Class Reusable Rocket for Mega-constellation Deployment

March 1, 2021 - Rocket Lab today unveiled plans for its Neutron rocket, an advanced 8-ton payload class launch vehicle tailored for mega-constellation deployment, interplanetary missions and human spaceflight. Neutron will build on Rocket Lab's proven experience developing the reliable workhorse Electron launch vehicle, the second most frequently launched U.S. rocket annually since 2019. Where Electron provides dedicated access to orbit for small satellites of up to 300 kg (660 lb), Neutron will transform space access for satellite constellations and provide a dependable, high-flight-rate dedicated launch solution for larger commercial and government payloads. Neutron will also provide a dedicated service to orbit for larger civil, defense and commercial payloads that need a level of schedule control and high-flight cadence not available on large and heavy lift rockets. Neutron will be capable of lifting 98% of all satellites forecast to launch through 2029 and will be able to introduce highly disruptive lower costs by leveraging Electron's heritage, launch sites and architecture.

Rocket Lab to Become Publicly Traded through Merger with Vector Acquisition Corporation

March 1, 2021 - Rocket Lab USA and Vector Acquisition Corporation, a special purpose acquisition company backed by leading technology investor Vector Capital, announced today that they have entered into a definitive merger agreement that will result in Rocket Lab becoming a publicly traded company. The transaction is estimated to be completed in Q2 2021 and, at that time, Vector will change its name to Rocket Lab USA, Inc. and the combined company will trade under the Nasdaq ticker symbol RKL. Rocket Lab is transforming the way we use and access space by delivering end-to-end solutions across the launch and space systems markets. Since the Company's first orbital launch in 2018, its innovative Electron launch vehicle has become the second most frequently launched U.S. rocket annually. To date, Rocket Lab has delivered 97 satellites to orbit for more than 20 public and private-sector organizations and technology-leading constellation operators. Rocket Lab's customer base is evenly split across government and commercial organizations including the National Aeronautics and Space Administration (NASA), the National Reconnaissance Office (NRO), and the Defense Advanced Research Projects Agency (DARPA), as well as commercial satellite leaders. As the first company to deliver regular and reliable dedicated launch services for small satellites, Rocket Lab has also played a leading role in catalyzing the growth of the commercial small satellite industry. The satellites launched by Rocket Lab enable operations in national security, Earth observation, space debris mitigation, weather and climate monitoring, communications and scientific research.

EXECUTIVE MOVES

Inmarsat Creates Two Roles to Strengthen the Company's Transformation

March 25, 2021 - Inmarsat CEO Rajeev Suri has announced two new executive appointments designed to place the customer at the heart of the organisation and to further enhance the company's commercial and product capabilities. The appointments are the result of a wide ranging review of Inmarsat's performance and effectiveness undertaken by Rajeev since joining Inmarsat in March. Barry French, formerly Chief Marketing Officer at Nokia, will join Inmarsat as CMC0. Reporting to the CEO, Barry's role will be to sharpen customer focus, drive customer engagement and revenue generation to the next level, ensure Inmarsat is an effective and engaged participant in key policy discussions, and further enhance employee engagement. Under his leadership, Inmarsat will be bringing together its marketing, communications and government affairs functions into a single executive level organisation. Jat Brainch, previously Senior Vice President of Group Commercial Management at Inmarsat, is appointed as CCPO. Reporting to the CEO, Jat will be responsible for Inmarsat's evolving commercial and product strategy and roadmap and to ensuring that the company continues to lead the industry in advanced, customer-centric products and services that are designed specifically for mobility and Government users.

Vikas Grover Joins Avanti Communications as CTO

March 23, 2021 - Vikas Grover joins Avanti Communications Group plc (Avanti) as its new Chief Technology Officer. Vikas was recently the founding Chief Information Officer at OneWeb, where he led Global Networks, IT Platforms and Security. Before OneWeb, he was the CIO and EVP Technology Planning at Vodafone India. Vikas brings a rich cross-industry experience from his stint at KPMG (Atos). Vikas will succeed Scott Richardson in the role, who will be leaving the company. Since Avanti launched in 2002, they have had a vision to design, build and launch pioneering satellite technology that would provide coverage even in the most remote or demanding locations. Today they are a leading partner to the communications industry, connecting over 1.7 billion people across 118 countries in Europe, the Middle East and Africa.

Giovanni Greco Joins Astra as VP of Vehicle Engineering

March 16, 2021 - Astra today announced that Giovanni Greco joined the company as Vice President of Vehicle Engineering. Greco comes from Blue Origin, where he served as Chief Engineer of the New Shepard program. Greco led the Blue Origin team responsible for the design and production of the New Shepard launch vehicle and crew capsule. He also brings his experience in the automotive and maritime industries, giving him an extensive background in producing vehicles at scale, and performance testing that will help Astra reach daily launch by 2025.

Eutelsat Names Juan Pablo Cofino Regional Vice President – CEO of Eutelsat Americas

March 12, 2021 - Eutelsat Communications announces the appointment of Juan Pablo Cofino as Regional Vice President – CEO of Eutelsat Americas. Juan joins Eutelsat from Intelsat where he was Regional Vice President, LATAM & Caribbean. He brings to Eutelsat over 20 years' industry experience and a strong track record of value-generation, having previously occupied senior international executive positions at leading companies in the Americas region, including ATN International, Tigo (Millicom Group) and Agreca (Grupo Progreso). Reporting directly to Philippe Oliva, Eutelsat's Chief Commercial Officer, Juan Pablo Cofino will lead the Eutelsat teams in the Americas and will spearhead the company's commercial forces within the region. He replaces Mike Antonovich in this role, who has decided to continue his professional career outside the Group.

Gilat Announces Appointment of Isaac Angel as Chairman of the Board

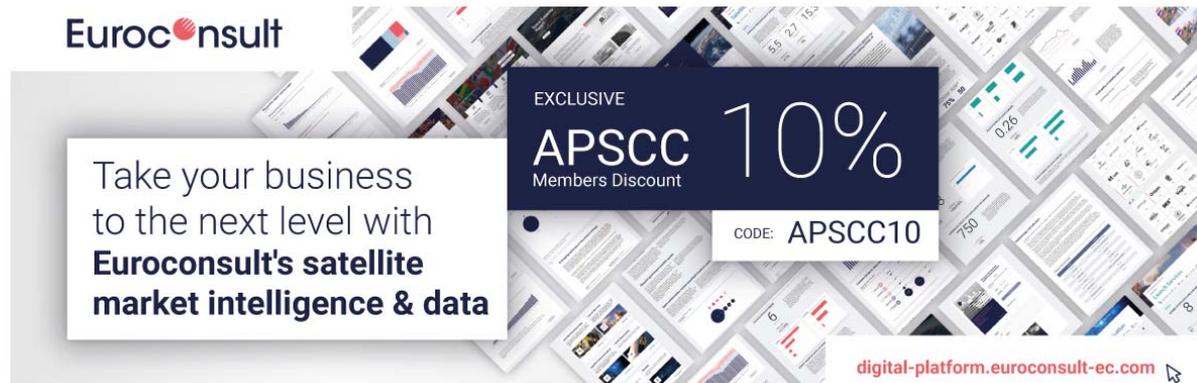
March 9, 2021 - Gilat Satellite Networks Ltd., a worldwide leader in satellite networking technology, solutions and services, announces the appointment of Isaac Angel as Gilat's Chairman of the Board. Isaac Angel's appointment is effective immediately taking over from Dov Baharav who has stepped down and retired after a seven-year tenure. Isaac Angel brings with him a wealth of experience and accomplishments from his current and previous positions. Mr. Angel serves as Chairman of the Board and served as CEO at Ormat Technologies Inc., a global company delivering renewable power and energy solutions. Before his seven-year tenure as an officer and director at Ormat, Mr. Angel held executive positions at LeadCom Integrated Solutions, VeriFone and Lipman Electronic Engineering Ltd.

SAIC Appoints David Ray to Lead Space Business Unit

March 9, 2021 - Science Applications International Corp. (SAIC) announced today the appointment of David Ray as senior vice president, Space Business Unit, reporting to Michael LaRouche, president of

SAIC's National Security and Space sector. In his new role, Ray will manage SAIC's newly formed Space Business Unit, which combines the company's civilian, defense and intelligence space operations under one organization. Ray brings extensive space and leadership experience to SAIC and its \$1.3 billion space business. He has worked with prominent space organizations such as the National Reconnaissance Office, NASA, and the U.S. Space Force. Most recently, Ray served as president, Government and Defense, at Flir Systems, where he led all aspects of the company's government and defense business, including mergers and acquisitions. Prior to that, Ray held leadership positions with Raytheon Intelligence, Information, and Services; Raytheon Space and Airborne Systems; Raytheon Missile Systems; and Booz Allen Hamilton.

REPORTS



The advertisement features the Euroconsult logo at the top left. The main text reads: "Take your business to the next level with Euroconsult's satellite market intelligence & data". To the right, a dark blue box contains the text "EXCLUSIVE APSCC Members Discount 10%" and "CODE: APSCCC10". The background is a collage of various data charts and graphs. At the bottom right, the URL "digital-platform.euroconsult-ec.com" is displayed with a mouse cursor icon.

Since its incorporation, Euroconsult has been collecting, updating and assessing detailed market, industry, policy, program and financial information to produce a range of high-quality market intelligence products. Relying on three decades of information, millions of data points and highly refined models, Euroconsult's market intelligence has become a reference tool for public and private space and satellite markets stakeholders. **Take advantage of the exclusive APSCC members offer and bring your company to the next level with our interactive bespoke analytics platform!"** <https://digital-platform.euroconsult-ec.com/>

Euroconsult: Satellite on Track to Provide Broadband Access to over 100 Million People by 2029

March 29, 2021 - The first *Universal Broadband Access report* from Euroconsult is a complete analysis and forecast of the satellite broadband market. It includes a detailed discussion of the addressable markets, a strategic analysis of the economics and opportunities, a comprehensive market assessment, and a market forecast through 2029 with trends and forecasts broken down by region and vertical market. Premium content is also available with detail on key macroeconomic indicators by country, and detail on the number of satellite terminals installed by country, including consumer broadband subscribers, number of Wi-Fi hotspots, and number of cellular backhaul sites.

NSR: Space Investments in 2020 Hit \$7.7B in Record Year

March 23, 2021 - NSR's *Emerging Space Investment Analysis, 3rd Edition report (ESIA3)* released today, shows \$7.7 billion in funding was raised in 2020 alone, bringing the total since 2000 to nearly \$36 B. "2020 was definitely a record year for space investment, with M&As, exits, and new rounds closing as we witnessed more enthusiasm and optimism in the prospect for the Space market" states Shivaprakash Muruganandham, NSR Senior Analyst and report lead author.

New NSR Report Projects \$1 Trillion+ in Cumulative Revenue for Global Space & Satellite Markets

March 10, 2021 - The new NSR *Global Space Economy report*, launched today, finds a cumulative space and satellite market revenue opportunity of more than \$1 Trillion between 2019 and 2029. There is an expanding need for space-based services to satisfy needs in orbit and on earth fueled by expanding requirements for everything from space-enabled Big Data Analytics missions, to commercial crew missions to the ISS, to "classical" connectivity use-cases. While there is a developing space-based, space-consuming economy underway; building connectivity services for earth-based needs still dominates the market landscape. Either in direct connectivity for broadband access or mobility markets or building/launching communications satellites; connectivity-focused use-cases dominate the NSR Global Space Economy revenue picture.

NSR: Optical Satellite Communications, 3rd Edition (OSC3)

March 1, 2021 - NSR's *Optical Satellite Communications, 3rd Edition (OSC3)* is the only industry report analyzing the rapidly evolving Optical Satellite Communication market. As this sector moves beyond technology demonstrations, OSC3 provides essential insights enabling industry players to retain and expand their markets. Utilizing NSR's extensive analytical experience, OSC3 forecasts the market for Optical Satcom to grow significantly. In the near term, Non-GEO constellations will be key growth enablers, while airborne UAS terminals are expected to boost growth in the long term. OSC3 provides comprehensive global forecasting spanning Space- Space, Space-Ground, and airborne UAS optical link types. In addition to keeping readers abreast of recent industry developments, this report offers analysis inclusive of prospective customer bases, with North America representing 89% of the total equipment market revenue opportunity.

UPCOMING EVENTS

APSCC 2021 Webinar Series, Virtual Event, <https://apccsat.com>
LIVE Every Tuesday 9AM HK | Singapore Time

Future of Video India, April 29, https://avia.org/all_events/future-of-video-india/

CABSAT 2021, May 24-26, Dubai, UAE, <https://www.cabsat.com/>

MilSat Symposium, June 1-3, <https://2021.milsatshow.com/>

Global Space Technology Convention (GSTC 2021), June 7-8, Singapore, <https://www.space.org.sg/gstc/>

ConnecTech Asia 2021, June 14-16, Singapore, <https://www.connectechasia.com/home/>

SatelliteAsia Summit, June 14-15, Singapore, <https://www.connectechasia.com/satellite-asia/>

Australasia Satellite Forum 2021, June 22-23, Sydney, Australia, <http://talksatellite.com/EVENTS.htm>

Satellite 2021, July 26-29, Washington, DC., USA, <https://www.satshow.com/>

SATELLITE unites a diverse community of aerospace and connectivity thought leaders, entrepreneurs, executives, engineers, end-users, and enthusiasts from around the world for the most important global satellite technology event of the year. Digital programs begin in April, and the SATELLITE Conference and Exhibition will take place July 26-29 in Washington, D.C. For more information, please visit www.satshow.com.

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.apcc.or.kr.