

APSCC Monthly e-Newsletter

July 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 June 1 to June 30.

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>.

SatelliteAsia Summit, July 15-16, Online Event <https://www.connectechasia.com/satellite-asia/>

The Asia-Pacific Satellite Communications Council (APSCC), in conjunction with Informa Tech, will present interactive online sessions at SatelliteAsia 2021 as part of Asia Tech x Singapore, Asia's biggest telecom industry event. The program will be focused on customer verticals, and will feature case studies, executive interviews, presentations and themed interactive sessions – all intended to showcase APSCC members, and provide a value-added experience for participants. [GET FREE TICKETS TO SATELLITEASIA](#)

APSCC Welcomes AWS as New Member

The Asia-Pacific Satellite Communications Council (APSCC) announced that global giant Amazon Web Services (AWS) has joined the trade group, augmenting its already-broad reach in the space and satellite industry across the Asia Pacific region. "APSCC is proud to welcome AWS as our newest member, and we are grateful for their support in our efforts to represent the industry in the region," said APSCC President Gregg Daffner. "As the only organization dedicated to furthering the mutual interests of the entire satellite and space industry in Asia, AWS not only strengthens APSCC's membership base, but also reinforces our association's diverse profile." "AWS sees great value in being able to join with other industry experts to support the unique needs of the aerospace community. We look forward to engaging with our APSCC colleagues," said Clint Crosier, director of the AWS Aerospace and Satellite business. Learn more about how AWS is supporting global space customers and partners, removing barriers to innovation on Earth, and inspiring future generations. AWS brings to 73 the number of members in APSCC, which is headquartered in Seoul, South Korea and serves eighteen markets across the Asia Pacific region. Membership is drawn from private and public companies at all segments of the space industry value chain, and includes government ministries and agencies, as well as academic and research entities.

SATELLITE BUSINESS

Microsoft, SES and GRC Showcase Azure Cloud for Remote Missions via Secure GovSat Connectivity Service

June 30, 2021 - Microsoft and SES, in partnership with GovSat and UK-based solutions provider GRC, came together to demonstrate how Microsoft Azure Machine Learning (ML) and Artificial Intelligence (AI) capabilities can be brought directly to end-users deployed globally in a highly secure, reliable way while maintaining network sovereignty - allowing users to exploit key Azure workloads regardless of location and drastically boosting the efficiency of critical missions. In these demonstrations the Azure Stack Mini R device was connected to a quick deployable tactical satcom terminal from GRC through the secure SATCOM connection on GovSat-1 satellite, and sent directly to Azure UK via the SES Cloud Direct service, giving connected and disconnected access to Azure services. The first demonstrations of its kind highlighted how this technology could be used in a number of scenarios such as a remote disaster relief operation, collecting information for analysis, at any given classification, allowing AI and ML models to be used to

categorise and assess the information locally before using the available SATCOM to update the overall situational awareness picture and, if required, updating the AI and ML models via hyperscale Azure DevOps processes.

Thuraya Signs Agreement with Delta Bridge to Drive Government Satellite Connectivity Growth

June 30, 2021 - Thuraya has signed a Solution System Integrator partnership agreement with Delta Bridge. Through the partnership, Thuraya and Delta Bridge will deliver key government customers secure satellite communication connectivity and mission-critical applications for the defense and government sector, backed by the companies' broad portfolios of experience and capabilities. Delta Bridge specializes in secure turnkey telecommunication solutions catering to the mission-critical needs of U.S. government customers, supporting logistics, oil and gas and maritime initiatives. Since 2006, the company has supported U.S. government integration projects. Leveraging Thuraya's innovative technologies and solutions, Delta Bridge will support government customers and build on its history of research and development (R&D), engineering, conceptualization and project management.

Sateliot Leads First In-orbit Demonstration of 5G NB-IoT Nanosatellite to Extend Mobile Coverage

June 30, 2021 - Sateliot, the satellite operator that will launch a constellation of nanosatellites to democratize the Internet of things (IoT) with 5G coverage, has materialized the world's first implementation and in-orbit demonstration of the 5G NB-IoT stack by nanosatellite that will allow extending coverage to mobile operators, as reported today in the framework of the MWC where it participates. In this way, Sateliot validates its project by confirming that the service tested in the laboratory is already working on the first of its nanosatellites already orbiting in space. Thus, the company has verified that the signals can be transmitted by this fast-moving satellite (LEO-600) and detected and decoded by a device on the ground. Precisely, this technical advance comes at the same time that the 3GPP, the body that periodically brings together the main players in the telecommunications sector to define the various communication standards, has approved the inclusion in the definition of the 5G-IoT standard of 'scenario 4' or also known in the sector as 'Sateliot scenario' in which low orbit nanosatellite networks are contemplated to provide IoT services.

OneWeb Fully-funded with New \$500m Investment. Secures \$2.4bn in Total Funding

July 29, 2021 - OneWeb has secured further fund-raising on the anniversary of the successful bid by UK Government and Bharti Global (Bharti) to purchase OneWeb from US Chapter 11 to bring its total funding to \$2.4 billion. OneWeb has completed its transformation with the exercise of a Call Option by Bharti to invest an additional \$500m into the company. Today's announcement comes as OneWeb prepares for its eighth launch on 1st July, delivering highly anticipated and strategically valuable Arctic region coverage down to 50 degrees latitude. The Call Option is expected to be completed in the second half of 2021, subject to regulatory approvals. On completion of the Call Option and with Eutelsat's \$550m investment, Bharti will hold 38.6%. The UK Government, Eutelsat, and Softbank will each own 19.3%. The final shareholding structure may alter to the extent a member of the shareholders' group chooses to exercise a part of this call option. On completion, OneWeb will have secured \$2.4bn of equity investment, with no issued debt.

Speedcast Completes Oil & Gas Industry Performance Testing on Telesat's Phase 1 LEO Satellite for Petrobras

June 29, 2021 - Speedcast has completed an oil and gas industry performance testing of Telesat's Phase 1 LEO satellite using data provided by Brazilian state-owned petroleum company, Petrobras. Identified testing data was selected to represent the company's typical data, voice and video applications. The testing program is part of Speedcast's ongoing commitment to evaluate technology advances with the potential to expand the quality and scope of services for its global customers who require high-performance connectivity solutions for their critical, maximum-uptime operations. Consisting of nine individual tests, the program measured overall performance of throughput, latency, packet loss and jitter across applications including videoconferencing, video streaming, web browsing, file transfer, voice and remote desktop. Results showed latencies of about 35 milliseconds, which is indicative of the final Telesat Lightspeed network design, whereas the other performance factors demonstrated the ability to move data reliably across the satellite. Testing over the robust Ka-band link demonstrated latency, data rates and application performance that are equivalent to a fiber-connected office environment. This enables the use of secure, cloud-based applications such as enterprise resource planning (ERP) systems, which require a lower latency than what's possible with a Geostationary Earth Orbit (GEO) satellite. Overall, these tests demonstrated that a LEO satellite can provide an experience equivalent to or better than an office

environment, enabling the integration of LEO into a combined solution to meet customers' needs and provide a reliable, low-latency solution.

Gilat Awarded US\$9 Million in Orders for Support of Low Earth Orbit (LEO) Constellation

June 28, 2021 - Gilat Satellite Networks announced that it received orders of US\$9 million for support of gateways of Low Earth Orbit (LEO) constellations. Gilat's subsidiary, Wavestream, was chosen as the vendor of choice to supply Gateway Solid State Power Amplifiers (SSPAs) to a leading satellite operator to support the LEO constellation gateways. The orders were received as part of the previously announced contract. Wavestream is proceeding according to plan with orders now exceeding 800 Gateway-Class SSPAs. Wavestream's PowerStream 160Ka is designed specifically for networks using wide bandwidth uplinks and high order modulation schemes, thus best addressing the stringent requirements of Non-Geostationary Satellite Orbit (NGSO) constellations installed in remote locations.

KVH Partners with StratumFive for KVH Watch Maritime IoT Solution

June 28, 2021- KVH Industries, Inc., announced today that StratumFive, creator of Podium, an award-winning voyage informatics platform, has joined the KVH Watch® Solution Partner program and will offer the KVH Watch service to enhance data flow from ship to shore. KVH Watch's dedicated connectivity will support StratumFive's ability to help vessels achieve efficiencies in tracking, routing, safety, security, fuel consumption, and emissions. Voyage informatics is defined as the application of information systems to increase the efficiency, safety, and ecological sustainability of the shipping industry. KVH Watch is an IoT Connectivity as a Service (CaaS) solution that provides data 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 IoT analytics experts, maritime equipment manufacturers, multichannel service providers, and shipyards seeking affordable monthly subscription-based connectivity that cellular services cannot deliver at deep sea.

Micro-Ant and Addvalue Forge Partnership for New Satellite Communication Product Development

June 28, 2021 - Micro-Ant LLC ("Micro-Ant") and Addvalue Innovation Pte Ltd ("Addvalue"), a wholly-owned subsidiary of Singapore Exchange Mainboard-listed Addvalue Technologies Ltd, signed a memorandum of understanding to jointly develop and promote satellite terminals for end-user applications globally. The two companies see tremendous opportunities in developing new and innovation satellite communication terminals in the coming years as the industry is seeing unprecedentedly huge investment into new satellite communication infrastructure both from the established incumbent satellite operators such as Inmarsat, ViaSat, Iridium and Thuraya as well as giant start-ups such as OneWeb, Starlink and Telesat, to name but a few. According to the report published by Allied Market Research, the global satellite communication market was estimated at US\$56.01 billion in 2019 and is expected to hit US\$99.58 billion by 2027, registering a CAGR of 9.2% from 2020 to 2027.

OneWeb and BT Sign Agreement to Explore Rural Connectivity Solutions in the UK and Beyond

June 27, 2021 - OneWeb and BT have signed a Memorandum of Understanding (MoU) to explore the provision of improved digital communication services to some of the hardest to reach parts of the UK. The groundbreaking agreement between OneWeb and BT comes as investment in expanding modern, digital infrastructure remains a top priority for the UK's economic recovery and development post-COVID. OneWeb's network has a unique capability to serve hard to reach communities and the work with BT will focus on how satellite technology might support improved capacity, mobile resilience, backhaul and coverage, including Fixed Wireless Access, in challenging geographic locations, as BT explores new options to enhance rural connectivity. As part of the discussions, the companies will consider opportunities to deliver OneWeb's connectivity services from low Earth orbit to businesses and communities around the UK, as well as identifying collaboration opportunities to develop new services beyond UK's shores for BT's global customers. OneWeb continues to execute the deployment of its network at pace and is seeing increasing demand from customers. The company has announced recent distribution partner signings across multiple industries and territories above the 50th Parallel with communication companies including the AST Group, PDI, and ACS, among others. Today's MoU announcement further demonstrates OneWeb's execution momentum, and the confidence customers have in its services and offering.

Eutelsat Launches Eutelsat ADVANCE for End-to-End Managed Connectivity Services

June 24, 2021 - Eutelsat Communications has launched Eutelsat ADVANCE, a global network solution for unlimited reach in a world where increasing digitalisation is having a massive impact on connectivity

requirements for businesses. Eutelsat ADVANCE is an end-to-end managed connectivity service, including network interconnection, a management portal and APIs for service providers and their clients, terrestrial connectivity, Ku and Ka-band capacity, and satellite terminals. Available via Eutelsat's certified network of partners, Eutelsat ADVANCE enables clients to enhance their service portfolio by increasing the range of services they offer, leveraging Eutelsat's powerful global capabilities and 24/7 support. The new solution includes a suite of tailored offerings addressing multiple markets, notably maritime, aviation, enterprise for businesses including energy, construction, banking and retail, government and telecoms - with custom backhaul solutions supporting all 4G/5G coverage expansion needs and high-speed transmission links. Eutelsat ADVANCE's global Ku-band network leverages the ST Engineering's Newtec Dialog platform. It facilitates application-use identification and prioritisation at a compelling cost that scales with demand. The high-performance Ka-band network will enable powerful connectivity for enterprise markets using Eutelsat's in-orbit Ka-band resources combined with Hughes Network Systems' ground network system.

Leaf Space Expands Global Ground Station Network to Support Growing Demand from Customers

June 24, 2021 - Leaf Space is adding three ground stations to the company's global Leaf Line Network. The new stations will be installed in Sri Lanka, the Azores and Scotland enhancing Leaf Space's capability to provide GSaaS solutions to its growing list of customers. With these additional ground stations, Leaf Space now fully owns and operates 12 stations globally and is on schedule to activate three more stations in Q3, with the goal of doubling the global network to 19 total this year. Leaf Space now fully owns and operates 12 stations globally and is on schedule to activate three more stations in Q3, with the goal of doubling the global network to 19 total this year. With these additional ground stations, Leaf Space now fully owns and operates 12 stations globally. The new state of the art 3.7m antenna paired with high performance baseband processing hardware add important additional coverage for Leaf Space's customers, allowing satellite operators expanded opportunity to communicate with spacecraft, sending and receiving critical data to support each mission. With these additional ground stations, Leaf Space now fully owns and operates 12 stations globally.

AXESS Networks Deploys ST Engineering iDirect Hubs for Services in Americas and EMEA

June 24, 2021 - As part of its global growth strategy, AXESS set two new state-of-the-art ST Engineering iDirect hubs in operation, to support increased demand of several clients in the Americas and EMEA. AXESS' teams implemented the new infrastructure in record time at teleports in Mexico and the Middle East. New features of these hubs in allow them to reach bandwidths of up to 100Mbps with small equipment, which translates into service benefits for their customers. Additionally, they use high-performance HTS technology (High Throughput Satellite). AXESS infrastructure, ranked amongst the top 10 of the best independent teleports worldwide and recognized by the WTA (World Teleport Association) and the GVF (Global VSAT Forum), continues to grow by integrating latest technologies. The integration further strengthens its operations and contributes to the service experience that AXESS delivers to clients from different sectors.

Ultra VSat Terminals Accredited for Use on Avanti

June 23, 2021 - Ultra's range of advanced man portable and flyaway satellite terminals, designed to meet the demands of secure government and military SATCOM, have been accredited for operations on Avanti Communication's fleet of high-throughput satellites. Avanti's high-capacity Ka-spectrum satellites provide fixed beams covering the EMEA region and steerable beams spanning from the Americas to Asia. Merging this capability with Ultra's range of terminals, specially designed to operate in the harshest environments, means that end users will have continuous access to reliable communications regardless of where they are operating. Using Avanti's high throughput beams, trials across Ultra's line of terminals showed outstanding throughputs in excess of 150Mbps in the Forward and Return routes. This capability means government customers now have the ability to provide headquarters-levels of capacity through a terminal that can fit on their back. The efficiency of these terminals, coupled with the high capacity of Avanti's high throughput steerable beams, will allow government customers to deploy multiple terminals operating simultaneously on one of Avanti's steerable beams - all delivering in excess of 100Mbps per terminal.

ST Engineering iDirect and Intelsat to Boost Broadband Connectivity across the Philippines

June 22, 2021 - ST Engineering iDirect and Intelsat are building on a long-term partnership with a local VSAT Service Provider to expand the provision of broadband internet services across the Philippines utilizing the iDirect Evolution® platform. The Philippines, an archipelago in Southeast Asia with over 7,500 islands, is the world's fifth largest island nation. With its location and geographical nature making it challenging to connect by terrestrial means, satellite technology provides a cost-effective and reliable

solution for broadband delivery, which is seeing rising demand across the region. The deployment of the Evolution platform, in conjunction with Intelsat's Horizons 3e satellite, part of its EPICNG series of high throughput (HTS) satellites, will enable broadband service expansion and improve connectivity access for schools, government offices, municipal users and island communities, and also extend coverage to areas where connectivity was previously unavailable. The Service Provider required a platform that could deliver highly reliable broadband internet services despite the scattered location of its customer base and wet weather conditions. Offering high throughput and reliability, the Evolution platform enables the Service Provider to offer a variety of flexible service plans, resulting in unique value for its customers. Evolution also delivers a high Quality of Experience (QoS), resulting in countless possibilities for service levels, bandwidth management and traffic prioritization. Moreover, Adaptive Time Division Multiple Access (TDMA) technology on the platform that allows remotes to dynamically adapt their transmissions to the hub to suit current link conditions, will allow the Service Provider to overcome issues with rainfade.

Eutelsat and Vox Sign Distribution Agreement for EUTELSAT KONNECT Capacity over South Africa

June 22, 2021 - Eutelsat Communications and Vox, a market leading end-to-end integrated ICT and infrastructure provider and telecommunications company, have reached a multi-year distribution agreement to extend high-speed network connectivity to South Africa. As of June, Vox will leverage the unmatched operational flexibility and power of EUTELSAT KONNECT, the new-generation high throughput satellite, and Eutelsat's market-leading service to further grow its satellite customer base.

Kymeta Joins the U.S. Army's Armored Brigade Combat Team Pilot Program

June 22, 2021 - Kymeta has been selected to participate in the U.S. Army's Armored Brigade Combat Team (ABCT) satellite communications on the move (SOTM) pilot program. The program will assess communications solutions on select vehicles to enhance battlefield network and command post communications. The ABCT pilot program will be led by General Dynamics Mission Systems, and Kymeta will supply eight u8 terminals for integration and testing on a variety of ABCT vehicles. Kymeta is the world's first and only metamaterial-based SOTM terminal, and its electronically steered flat panel antenna platform utilizes satellite and cellular connectivity for communications on the move and on the pause. Today, the u8 terminal is the only electronically steered antenna available and capable of supporting both low Earth orbit (LEO) and geostationary (GEO) satellite constellations. The u8 includes future-proof capabilities with its ability to automatically switch back and forth from GEO satellite constellations with linear polarization and LEO constellations with circular polarization. Kymeta's advanced SOTM terminals automatically acquire and track satellites, join associated networks, and establish communications without moving parts or operator intervention. In addition, the u8 supports multiple modems and network architectures, ensuring that legacy systems are interoperable and that they have the highest levels of security, encryption, and authentication. Visit www.kymetacorp.com to learn more.

Overon Expands Capacity Contract at Eutelsat's 10° East Orbital Position

June 21, 2021 - Eutelsat has extended its contractual relationship with Overon, a leading provider of satellite services, for capacity at Eutelsat Communications' 10° East orbital position. This multi-year, multi transponder contract for Ku wide-beam resources includes incremental capacity from 2023 onwards compared with the current contract. Overon will leverage the EUTELSAT 10A satellite, with a provision to transfer to EUTELSAT 10B once it enters service. The capacity will be utilized by Overon's customer, EUMETSAT, the European operational satellite agency for monitoring weather, climate and the environment from space. The capacity is located at 10° East, one of Eutelsat's long-standing orbital locations and a key position for data networks with unrivalled coverage of the European, Middle Eastern and African zones.

NEC Launches 5G xHaul Transformation Services with the Establishment of 5G Transport Network

June 21, 2021 - NEC Corporation announced today its launch of 5G xHaul transformation services with the establishment of 5G transport network centers of excellence (CoE) in the Europe and Middle East and Africa (EMEA) and Latin America (LATAM) regions. Foreseeing growing demand to enhance operator networks to enable the diversified use cases anticipated with 5G, there is a need to transform all domains of the network, from the core to radio access and the edge. As the foundation for unlocking the full potential of 5G, the transformation of xHaul networks is imperative for communication service providers (CSPs) to stay ahead of the game. However, every CSP has its unique architecture and requirements that need to be tailored accordingly. To address such needs, NEC has launched professional services that are based on an ecosystem of award-winning partnerships, extensive offerings, and customized services that match with specific business requirements for customers. The services will support the full lifecycle of

CSPs' networks, from analysis and planning to deployment and operation, in order to optimize the total cost of operations (TCO) for networks. Services will also include the validation and pre-integration of a multi-vendor environment.

SES Expands Cloud Leadership as Amazon Web Services Direct Connect Partner

June 17, 2021 - SES has joined the Amazon Web Services (AWS) Direct Connect Delivery Partner program. Through a technical and business review process, AWS validated SES's ability to connect its customers directly to their AWS services over its network of multi-orbit satellites. This provides SES customers flexible, secure, reliable access to their cloud-based applications and services from virtually any location around the world. This is a major advantage to both enterprises and government users who require reliable bandwidth while working in remote locations. SES is the first satellite operator to achieve AWS Direct Connect Partner status. As an AWS Direct Connect Delivery Partner, SES can provide enterprises and governments with dedicated connectivity between virtually any location around the world. For SES customers, direct connectivity to AWS via satellite gives them access to their cloud-based applications and services from remote, rural or other locations with limited or no network options. Equally, the satellite connectivity delivered by SES can serve as network redundancy for critical cloud workloads in case of a fibre cut or other network outage. This capability allows SES customers to enjoy improved efficiency and productivity, while also taking advantage of the elasticity and cost savings provided by AWS, regardless of geographical location or local network infrastructure options. AWS Direct Connect makes it easy for customers to establish a dedicated network connection between their office, data centre, co-location site or other facility and AWS at speeds from 50 Mbps up to 100 Gbps. For customers with large-scale workloads, AWS Direct Connect provides secure, flexible connections with consistent network performance and reduced bandwidth costs. SES will use its Cloud Direct service to connect its customers to AWS data centres over its network of medium earth orbit (MEO) and geostationary (GEO) satellites. The Cloud Direct service will also be available on SES's next-generation MEO constellation, O3b mPOWER, launching later this year. O3b mPOWER will provide SES customers with the ideal satellite-enabled cloud connection, supporting multi-gigabit services that adapt dynamically to network demand.

Inmarsat Secures First Fleet Data Premium Installation in Asia Pacific with Diamond Bulk Carriers and Nautilus Labs

Jun 17, 2021 - Fleet Data provides data acquisition, processing, uploading, and interface links between engine and Nautilus Labs' fleet optimisation solution so that Mitsubishi Ore Transport and Diamond Bulk Carriers reap rewards of big data without hardware expense. Inmarsat has been pivotal in connecting digital stakeholders for Asia Pacific's first Fleet Data Premium project. Delivered for Diamond Bulk Carriers, the project requires no new hardware to enable access to the Nautilus Platform for maximum fleet efficiency. At a time when Covid-19 restrictions continue to hamper travel for marine engineers, Inmarsat drew on certified engineers at Japanese service partner JSAT MOBILE Communications Inc. to retrofit Fleet Data on a Mitsubishi Ore Transport Co. Ltd-owned vessel at Tsuneishi Shipbuilding. Fleet Data is an Internet of Things (IoT) platform with inclusive bandwidth, delivering full visibility of a vessel or fleet's data anywhere and anytime. With Inmarsat now offering 'freemium' Fleet Data with Fleet Xpress so that owners can use a limited number of shipboard data tags to trial IoT-based solutions without investment risk, Toh and his team devised a way to include more tags using 'Fleet Data Premium', enabled by a simple Modbus interface.

ST Engineering iDirect Selected by AXESS Networks to Connect Communities across Mexico

June 16, 2021 - ST Engineering iDirect, a global leader in satellite communications, has been awarded a contract to provide its long-term partner, satellite solutions company AXESS Networks, with the first Newtec Dialog® XIF hub deployed in Mexico to connect remote communities and businesses. The hub will be utilized by AXESS Networks' customer, mobile operator Altan, to deliver highly sought-after 4G mobile services to rural sites across the region. A current user of the iDirect Evolution® platform, AXESS offers a range of VSAT services across the Americas and EMEA regions and is a leading regional operator. In expanding its portfolio with Dialog, the company can now tap on more solutions from ST Engineering iDirect's portfolio to execute its growth plans across many different markets. AXESS will leverage ST Engineering iDirect's renowned Mx-DMA return technology, a core feature of the Dialog platform, to extend 4G cellular backhaul connectivity services to remote parts in Mexico, reaching 100Mbps/30Mbps throughput per site. AXESS to offer the widest range of cellular backhaul applications to expand their market share.

KVH Introduces TracPhone LTE-1 Global Cellular Marine Communications Solution for Offshore Internet

June 16, 2021 - KVH Industries, Inc., announced today that it has introduced the TracPhone® LTE-1 Global marine communications system designed to provide recreational boaters and commercial mariners in more than 150 countries with Internet access up to 20 miles offshore. The system utilizes LTE Advanced (LTE-A) cellular network technology, which is faster than regular 4G LTE, and builds on KVH's award-winning US-only TracPhone LTE-1, which was introduced in 2018. With its ultra-compact 34 cm (13.5 inch) dome, the TracPhone LTE-1 Global is suitable for small and mid-size recreational boats such as sailboats, center console boats, and sportfishers as well as smaller commercial fishing and work boats that often rely solely on cellphones for Internet access close to shore. The TracPhone LTE-1 Global is designed to enable various applications for mobile connectivity, such as streaming HD videos and music; Wi-Fi-based voice, messaging, collaboration, and video applications; browsing the Internet; and posting on social media – all while offshore.

Cobham SATCOM Launches XTR – A Next Generation Antenna Platform to Future-proof Vessel

June 16, 2021 - Cobham SATCOM, the market-leading provider of radio and satellite communications solutions to the maritime industry, has today announced the launch of its new SAILOR XTR™ antenna platform. The SAILOR 1000 XTR Ku is the first of a new generation of software-controlled antenna systems designed for quick deployment, operational reliability, simplicity, and best-in-class radio frequency (RF) performance. Developed and designed by Cobham SATCOM, SAILOR XTR™ integrates the best of the SAILOR VSAT technology into a new platform with cutting-edge software and electronic capabilities that prepare it to operate in future satellite constellations in LEO, MEO, GEO and HEO orbits. The one-metre antenna has a new simplified and robust pedestal for better antenna performance and easier and simpler conversion between Ku- and Ka-bands. SAILOR XTR™ is prepared for the internet of things. Built-in IoT data protocols such as Message Queuing Telemetry Transport (MQTT), Simple Network Management Protocol (SNMP) and RESTful API could make SAILOR VSAT and SAILOR XTR™ antenna systems a self-reporting item in a typical satcom/IT solution, providing up-to-date detailed antenna information and enabling preventive maintenance. This helps to ensure uptime, boosts the efficiency of on-board IT systems and contributes to optimised vessel performance.

SES Renews Long-Term Relationship with Comcast Technology Solutions

June 15, 2021 - SES will continue delivering Comcast Technology Solutions' Managed Satellite Distribution service, formerly known as Headend in the Sky (HITS), that reaches hundreds of multichannel video programming distributor systems across the US. SES recently renewed its long-term relationship with Comcast Technology Solutions (CTS), a division of Comcast Cable that provides media and entertainment technology to advertisers, agencies and content providers. As part of a new, multi-year extension agreement, SES will be transitioning CTS's Managed Satellite Distribution service from SES-11 at 105 degrees West to AMC-11 at 131 degrees West. This is part of SES's plan to clear the C-band spectrum in the US to accommodate the deployment of 5G services in the coming years. For more than two decades, CTS's Managed Satellite Distribution service has enabled multichannel video affiliates to transition to digital services, reduce costs and reclaim valuable bandwidth for new services. SES is using advanced compression as part of the transition to AMC-11 and is working with CTS to ensure its Managed Satellite Distribution affiliates have a seamless transition, deliver a high-quality experience to their subscribers and ensure no interference from 5G transmissions on the cleared spectrum. As part of its C-band clearing plan, SES will also be launching new C-band satellites to provide continuity of service well into the future for CTS and its Managed Satellite Distribution affiliates.

Intellian's New R&D Center Boosts Growth for Satcom Innovation and Production

June 14, 2021 - Intellian announced that its new state-of-the-art Research and Development Center in Pyeongtaek, South Korea, is now complete and operational. The facility provides a new home for the continually growing engineering team, houses state of the art product and quality verification facilities, and will accelerate product development. In particular, antennas using emerging phased array technology will benefit from a new compact test range to assist with development and testing. The expansion also allows production to be significantly increased in the existing Innovation Center, meeting the increased order volume recently experienced by Intellian and providing capacity for new product lines. These new facilities will further enable Intellian's strategy to devise and deliver innovative, customer-focused and future-proofed solutions, as demonstrated by recent product launches. In particular, the imminent launch of multiple new low-orbit (LEO) networks – a key driver in the development of phased array antennas – is expected to generate new business opportunities and facilitate increased use of satellite communications

across the maritime, land and government markets.

Alaska Communications Expands Connectivity Offerings with OneWeb's LEO Satellites

June 10, 2021 - Alaska Communications has signed a Distribution Partner Agreement with OneWeb, the global communications network powered from space, to expand the company's connectivity solutions across Alaska. Through the agreement, Alaska Communications will sell OneWeb's low Earth orbit (LEO) satellite service to its customers and use OneWeb's infrastructure for critical middle mile connections. LEO satellites deliver fiber-like connectivity performance to areas that have been inaccessible via terrestrial options. Businesses, local governments, schools, healthcare providers and resource developers need high speed, low latency connections to keep up with growing demands, like video conferencing, telehealth, cloud computing and more. LEO services through Alaska Communications and OneWeb will be available for service in the fourth quarter of 2021.

Lite Coms Announces O3B Certification from SES on the Lite Sat 2.2A

June 10, 2021 - Lite Coms LLC announced that their Lite Sat-2.2A VSAT Antenna, Lite Sat® 2.2 Auto Acquire - Lite Coms®, has received SES O3B Certification. This is a very significant event for DOD and VSAT users around the globe as this terminal is now the first and only VSAT to be. This gives users the ultimate in flexibility during deployments. In addition to the certifications above, this terminal also utilizes a multi-piece carbon fiber reflector to be low-PIM X-band certified for multi-carrier operations and, very important to the Army, packs in cases that meet MIL-STD-1472H 3-person lift" requirements (less than 112 lbs. each). Using these services, U.S. Government customers can take advantage of the proven capabilities to support the provisioning of enterprise services to deployed warfighters. The O3b certification that Lite Sat 2.2A has received offers a solution that can leverage the MEO constellation by providing fiber-like connectivity to austere deployed locations.

Thales and Goonhilly Earth Station Collaborate on Research into Laser Beams as Data Pipes

June 9, 2021 - Thales Australia has signed a major research extension with the SmartSat Cooperative Research Centre (CRC) for the development of advanced optical communications technologies for transmission through Earth's turbulent atmosphere. The research extension builds upon initial feasibility work conducted over the past 12 months, and provides a three-year commitment from SmartSat to fund the next phase of this new communications technology that uses laser beams to carry high data rate communications through space. The project will develop an advanced optical communications system that has been shown to support optical fibre-like data transfer rates over atmospheric free-space communication links, using active optics technology and a free-space coherent phase-stabilisation system. The project will focus on deploying this technology to demonstrate feasibility over vertical free-space communications links through Earth's turbulent atmosphere, starting with low-altitude targets, progressing to light aircraft and stratospheric vehicles. Preliminary work has already demonstrated successful communication over 2.4km and 10km horizontal free-space links.

Marlink Releases New ITLink Solutions to Simplify Remote IT Management and Support Cyber Compliance

June 9, 2021 - Marlink, the leading provider of smart digital solutions, has further expanded its ITLink portfolio, the maritime industry's most comprehensive IT management solution, with the addition of two new service options. Introduced in response to customer needs for cost-effective, easy-to-use and deploy ship IT management solutions, Marlink has rebranded its remote IT solution KeepUp@Sea to ITLink and further enhanced the suite of solutions with both entry-level and advanced IT solutions. ITLink, which has already been installed on more than 1,000 vessels, allows ship operators on shore to centrally manage and update their entire fleets of thousands of PCs in one-go, rather than having to do this one ship at a time and quickly restore any type of software and hardware from backup. By taking advantage of Marlink's managed services, vessel operators can achieve significant cost savings, deploy fleet-wide software updates more swiftly and safely while ensuring compliance with IMO2021 cybersecurity regulations. The new ITLink Entry-level solutions provide an easy means of reducing the tasks that crew perform for software installations or operating system updates, while providing shore-based staff with a fleetwide overview of IT network security update status to support cyber compliance.

SoftBank to Promote Non-Terrestrial Network (NTN) Solutions

June 8, 2021 - SoftBank Corp. announced it will start promoting the deployment of Non-Terrestrial Network (NTN) solutions that provide connectivity from space and the stratosphere. SoftBank's NTN solutions will encompass the Geosynchronous Earth Orbiting (GEO) satellite NarrowBand IoT (NB-IoT)

services provided by Skylo Technologies, Inc., which recently agreed to partner with SoftBank to provide satellite connectivity services in Japan. SoftBank's NTN solution portfolio will also include Low Earth Orbit (LEO) satellite communications to be provided by OneWeb Ltd. and High Altitude Platform Station (HAPS)-based stratospheric telecommunication platforms to be provided by SoftBank subsidiary HAPSMobile Inc. The respective services of Skylo, OneWeb and HAPSMobile in SoftBank's NTN solutions lineup will offer unique advantages to meet the diverse needs of customers. Skylo's GEO satellite NB-IoT services are providing IoT connectivity for fishing, mining, shipping and other industries at more affordable prices than traditional GEO satellite services. OneWeb's LEO satellite-based services make it possible for governments, businesses and consumers around the world to enjoy faster communication services with less latency compared to traditional GEO satellite services. HAPSMobile's stratospheric telecommunications platform will be able to directly provide LTE and 5G connectivity, making it possible for customers to use their smartphones and other mobile devices without the need for special equipment, even if their region lacks traditional communications infrastructure. To digitalize and transform analog industries without access to communication networks, SoftBank will aim to provide advanced and seamless connectivity services and Digital Transformation (DX) solutions in Japan and around the world.

Kymeta Broadens Network Offerings for Government and Military through Strategic Partnership with Comtech EF Data

June 8, 2021 - Kymeta announced a strategic technology partnership with Comtech EF Data Corp., a leading provider of satellite communication equipment. The agreement enables Kymeta to broaden its network of offerings for the Kymeta™ u8 terminal through interoperability with Comtech's SLM-5650B modem. The pairing of the u8 antenna and Comtech modem using the Open Antenna to Modem Interface Protocol (OpenAMIP), an industry-wide open-source standard for antenna-router integration, allows for seamless integration and automatic operation through the use of both Low Density Parity Check (LDPC) waveforms and STANAG 4486 Edition 3, Annex E (EBEM) waveforms. The Comtech SLM-5650B is a U.S. Army Forces Strategic Command (ARSTRAT) Wideband Global SATCOM certified modem for critical commercial backhaul, as well as government and military applications. It is fully compliant with MIL-STD-188-165A/B, complies with and supports FIPS 140-2 certified encryption. Kymeta u8 terminals, antennas, and ODUs are easy to set up and acquire service within minutes of installation. The u8 is also available in a transportable configuration called the u8 GO, which is ideal for rapid deployments. The u8 GO enables safe transport with a hardened case for protection and provides a built-in car mount to support easy communications on the pause (COTP) and on the move (COTM).

Speedcast Extends Kinross Gold Network to Support Exploration of New Sites in Russian Far East

June 8, 2021 - Speedcast has received a contract from JSC Chukotka Mining and Geological Company, a Kinross subsidiary, to expand the company's very small aperture terminal (VSAT) network supporting the development of the Udinsk Gold open-pit mine to two new license areas in the Russian Far East. Kinross Gold Corporation is one of the world's leading gold mining companies. The Kayenmyvaam and Kavralyanskaya areas are early-stage gold prospecting sites that previously depended on satellite phones for connectivity. Speedcast will provide a fully managed wide-area network (WAN) connectivity service for Kinross and has installed dedicated WAN connections over VSAT at each site to establish a corporate virtual private network (VPN). The contract is the second extension received by Speedcast since its original start of service in 2020. Recently, Speedcast doubled bandwidth speeds available at the Udinsk mine.

Skylo and Inmarsat Work Together to Enable World's First Commercial Narrowband IoT over Satellite

June 8, 2021 - Skylo, a satellite-based narrow-band (NB) IoT solution company, has today announced that Inmarsat will provide the satellite capacity backbone to deliver its IoT solutions for connecting machines and sensors. The agreement pairs Inmarsat's exceptionally reliable global satellite network with a complete, easy-to-use IoT solution that provides even the most remotely located application users with real-time, actionable insights; helping improve efficiencies, increase profits, improve sustainability, and save lives. The solution is available now in India through a partnership with in-country partner BSNL and expansion plans will be announced later this year.

INTEGRASYS Link Budget Tool, Beam Budget New Add-on Footprint Database

June 7, 2021 - Integrasys has released a new service offered for Beam Budget users providing a new remote database that gathers all of the Satellite Footprints. The innovative add-on SaaS is now available for all the Beam Budget customers, as an additional service. In order to provide an exceptional customer

experience, the company has developed this complete database, which includes: The satellite footprints and their frequency range with the specific frequency range defined by the operator. High precision in the gain of each beam, not only working with discrete 2dB contours between each band, but we also interpolate the gain to the exact locations, thus allowing intermediate values and increasing the precision of the calculations. The revolutionary link budget tool developed by Integrasys, is the pioneer in integrating this smart solution whose goal is to automate the network design and provide the customer with useful resources to accomplish the network architecture succeed seamlessly. Beam Budget, our Cloud-Based system smart tool is the most accurate link budget calculation solution available in the market, with a user-friendly interface that enables to be used not only by technical profiles but also by Sales Teams to manage capacity pricing and simplifying the network design for better sales & customer understanding with graphical reports. Beam Budget only requires a one-time fee for unlimited users and the Link Budget process takes less than 1 minute, minimizing time and effort, and maximizing ROI.

Launch of Testing of the Satellite Internet Service with Speeds up to 100 Mb

June 4, 2021 - TIM is launching the new satellite Internet service as a trial for TIM landline customers located in areas not covered by the broadband and ultrabroadband network. This new service will allow customers to navigate at speeds up to 100 Mbps in download by exploiting the connectivity of Eutelsat's Konnect satellite reserved exclusively for TIM for the Italian territory. With this initiative the company strengthens its offer devised to overcome the country's digital divide, bringing super-fast connectivity to areas not yet reached by fibre and Fixed Wireless Access (FWA). The first 3000 customers who sign up will be able to exclusively try out the new satellite service, which will be marketed by TIM in the months ahead. Customers will be given a satellite kit on free loan, complete with a satellite dish, external transmitter and Wi-Fi modem. The free-of-charge installation will be carried out by a specialized technician. Testing is underway throughout almost the entire country and will be complete by this coming October; customers will then be able to choose whether to accept the new commercial offer.

Viasat Signs Ka-Band Capacity Lease Deal with Avanti Communications

June 3, 2021 - Viasat Inc., a global communications company, today announced it signed a Ka-band capacity lease agreement with Avanti Communications Group plc (Avanti) to provide additional coverage and capacity across the Middle East and Western Europe – ahead of its ViaSat-3 global constellation – to support Viasat's expanding global mobility and enterprise businesses, specifically across aviation, maritime and energy. Viasat and Avanti have a long-standing relationship, having signed prior Ka-band capacity lease agreements. This new agreement augments Viasat's KA-SAT satellite coverage and capacity and will initially be leveraged to serve new mobility customers in the region. Viasat plans to leverage Avanti's HYLAS 4 and HYLAS 2 satellites beginning in October 2021.

Airbus Defense Selects L3Harris Technologies to Provide OneSat Power Amplification Modules

June, 3 2021 - Airbus Defense has selected L3Harris Technologies to provide power amplification modules for OneSat satellites operating in multiple frequency bands for next-generation software-defined networks. L3Harris' Electron Devices Division (EDD) will provide nano Microwave Power Modules (nanoMPM). nanoMPMs deliver high power, small package size, and unmatched efficiency enabling Airbus to meet tight power and packaging requirements, while providing reliability and flexibility. The satellites are part of Airbus' OneSat product line, the latest generation of fully flexible, in orbit reconfigurable, software defined satellites. OneSat is designed to deliver the optimal balance between performance, flexibility and competitive cost per bit, while maintaining product reliability. Airbus currently has seven OneSat satellites in production for four major operators around the globe, each utilizing L3Harris nanoMPMs. L3Harris has provided MPM devices for many years to the military aerospace market. The company's space heritage includes over 70 years of products, with 80 million error-free hours in orbit.

Isotropic Systems and SES GS Complete Milestone Trials to Unlock Next-Gen Connectivity for U.S. Military

June 3, 2021 - SES Government Solutions and Isotropic Systems announce the successful completion of the first of two milestone next-generation antenna trials with the U.S. Military aimed at unleashing unprecedented information distribution to warfighters across the battlefield. The U.S. Air Force and U.S. Army, through the innovative Defense Experimentation Using Commercial Space Internet (DEUCSI) program, are evaluating the ability of Isotropic Systems' optical beamforming antenna to enable frontline armed forces to access high-speed, real-time data simultaneously over multiple commercial and military satellites. First phase dual-beam tests conducted at the Harwell Science, Technology and Innovation Campus near Oxford, UK, have successfully demonstrated transformational optics at the core of Isotropic

Systems' multi-beam terminal that are fully capable of linking with multiple satellites at the same time. Over-the-air (OTA) trials conducted at an SES teleport in Port St. Lucie, Florida, also part of phase one, have verified the Isotropic Systems' high-performance multi-beam platform meets military requirements to acquire and track SES' O3b MEO satellites. Phase two trials will test Isotropic Systems' latest antenna prototype over links with SES satellites in geostationary orbit (GEO) and medium earth orbit (MEO), demonstrating seamless satellite-to-satellite transitions and a redundant, resilient leap in wartime communications. The DEUCSI trials will wrap up in 2021, ahead of the commercial launch of Isotropic Systems' optical multi-beam antenna production scheduled for 2022, and in time to support SES' new high-throughput MEO constellation satellites coming online, the groundbreaking O3b mPOWER system.

Thuraya Launches SatTrack, a Tracking and Monitoring Service for its Maritime Customers

June 3, 2021 - Thuraya has launched its web-based SatTrack maritime tracking and monitoring service in partnership with FrontM, a leading international developer of software applications. Developed for vessels and fleets serviced by the Thuraya MarineStar Solution (supporting voice, tracking and monitoring), SatTrack facilitates sustainable fishing practices, improved crew welfare and safety, better fleet visibility and management, and also onboard real time condition monitoring. The transition to digitization is changing the maritime sector globally. However, the pace of change is slow, because the overall costs of integrating and maintaining third-party services are still high. A low-cost turnkey subscription-based service, Thuraya's SatTrack helps MarineStar users stay in command and gain vital market advantage, while ensuring compliance with national and international fishing laws and regulations. Subscribers do not have to delve into multiple layers of data for comprehensive insights. The online system displays the information reported from onboard MarineStar terminals on a user-friendly dashboard. Moreover, it can create and monitor geo-fences, produce detailed maps, customized alerts, weather and position reports at preset intervals based on user requirements.

Gilat Awarded \$13M Contract by Pronatel for Delivery of Internet Services in Peru

June 3, 2021 - Gilat Satellite Networks Ltd. announced the award of a \$13M contract by Pronatel for delivery of internet services to hundreds of sites in Peru. Gilat to supply Public Free WI-FI services over a two-year period to the regions of Ayacucho, Apurímac, Huancavelica and Cusco with a potential for significant extension and expansion to thousands of additional sites. Gilat is engaged in support of the Peruvian government to enable education over the internet; a particularly important mission during the ongoing pandemic. The government is supplying thousands of tablets to students, for the purpose of accessing educational material. Gilat is installing hotspots in hundreds of city squares, which include a local server with digital education material, for the benefit of the students. Gilat is providing connectivity services, the wireless access solution and infrastructure for the WIFI internet coverage.

Kymeta Achieves ISO 9001 Certification for Global Quality

June 3, 2021 - Kymeta, the communications company making mobile global, is proud to announce it has received ISO 9001:2015 certification. ISO 9001:2015 is the world's most widely recognized quality management standard. This standard was selected to validate Kymeta's quality management system specifically to meet the quality expectations and requirements of Kymeta's customers, partners, and suppliers. The International Organization for Standardization developed the ISO 9001:2015 standard to standardize quality management systems across multiple industries. Setting the bar for quality management system performance, ISO certification validates Kymeta has the right processes in place to support the wider business strategy. Focus on risk-based thinking and accountability in all organizational processes helps to improve communications, efficiency, and implementation of continuous improvement. The road to certification requires both time and dedication on behalf of all Kymeta employees. After a year of significant growth, even during the disruptions caused by COVID-19, Kymeta moved toward enhancing corporate policies, procedures, and tools to ensure scalable and repeatable delivery of high-quality products and services.

GMV Supplies Operations Centre for the New Generation of Yahsat Satellites

June 2, 2021 - GMV has signed a new contract with the UAE-based Al Yah Satellite Communications Company (Yahsat) to supply the control centre and flight dynamics system for the operator's sixth satellite - Thuraya 4 NGS, a next generation L-band system slated for operations in 2024. Thuraya 4-NGS will lead the continued advancement of Yahsat's mobile satcom business through its subsidiary - Thuraya - in core markets. It will enable next generation mobility solutions with higher capabilities and flexibility, while increasing capacity and coverage across Europe, Africa, Central Asia and the Middle East. Yahsat is one of GMV's flagship clients. It is now using the company's flight dynamics systems and mission planning system,

rolled out by GMV for the control of all the satellites of the Al Yah family (Al Yah 1, 2 and 3). The recently awarded contract has been won on the strength of GMV's wealth of experience in providing systems of this type, grafting them on to the existing product line. Pride of place here goes to the real-time telemetry and telecommand processing system Hifly and the flight dynamics system FocusSuite. The contract also takes in the provision of other inhouse GMV fleet-control products like Flyplan, dealing with operations planning and automation. GMV will also see to the deployment and integration of the center, as well as system maintenance and operator training.

RHEA, SatADSL and ST Engineering iDirect to Develop Secure Satcoms Pooling & Sharing System

June 1, 2021 - A consortium of Belgian companies led by RHEA Group and including SatADSL and ST Engineering iDirect, has been awarded a contract by ESA to develop and run an enhanced satellite communications PSS. The dual-use digital platform, called Secure PSS Hub, will have an innovative mission configurator and 'built-in' security and reliability feature to provide secure and guaranteed access to satellite communications for a wide range of users. The pooling and sharing services will be built on ST Engineering iDirect's Newtec Dialog® platform which will provide strengthened security features. Once operational, RHEA's security team based in Diegem and Redu in Belgium together with its partner SatADSL, based in Brussels, who will commercially operate the resulting PSS Platform, will be able to offer secure PSS services to users anywhere in the world and serve Institutional and Governmental customers worldwide, integrating offers from different commercial satcom resource providers. Pooling and sharing satellite communication capacity from multiple satcom satellite operators in a secure manner provides an innovative alternative, cost-effective way for users to gain access to secure communications services and can be particularly beneficial if they are required at short notice or if they are used for communications between governmental agencies or between governments.

A Consortium of European Digital Players to Design the Future EU Quantum Internet Quantum Communications

June 1, 2021 - The European Commission has selected a consortium of companies and research institutes to study the design of the future European quantum communication network, EuroQCI (quantum communication infrastructure). It will enable ultra-secure communication between critical infrastructures and government institutions across the European Union. The European consortium led by Airbus is composed of Leonardo, Orange, PwC France and Maghreb, Telespazio (a Leonardo and Thales 67/33 joint venture), the Consiglio Nazionale delle Ricerche (CNR) and the Istituto Nazionale di Ricerca Metrologica (INRiM). The EuroQCI will integrate quantum technologies and systems into terrestrial fibre optic communication networks, and will include a space-based segment ensuring full coverage across the EU and other continents. Ultimately, this will enable secure Europe's encryption systems and critical infrastructures such as government institutions, air traffic control, healthcare facilities, banks and power grids against current and future cyber threats.

Viasat to Deliver Enhanced Military-Grade Encryption on the First-Ever Link 16-Capable Low Earth Orbit Spacecraft

June 1, 2021 - Viasat Inc. announced it will integrate its In-line Network Encryptor (INE) into the world's first Link 16-capable low earth orbit (LEO) satellite, which Viasat is developing for the U.S. Air Force Research Laboratory Space Vehicles XVI program. Viasat's INE will be the first crypto deployment on a Link 16-capable LEO satellite, and will provide communications security (COMSEC) and additional enhanced cybersecurity capabilities initially associated with mission data transfer, with future evolutions expected to simultaneously secure user data; telemetry, tracking and command (TT&C) management; and inter-satellite communications – at multiple security levels. Viasat's INE, which was designed for a very low Size, Weight and Power (SWaP) constrained system, is expected to provide radiation-tolerant network encryption aligned with the LEO space environment and will be capable of supporting speeds exceeding 100 Megabits per second (Mbps) aggregate throughput, which makes it an outstanding encryptor to secure Link 16-to-LEO communications. The INE will also be able to secure the data flow between an unclassified spacecraft bus and the classified processing domain.

BROADCAST

HIGH VIEW Renews Contract with SES

June 24, 2021 - HIGH VIEW has extended its partnership with SES in a new multi-year contract and secured long-term satellite capacity. Its DELUXE MUSIC channel will continue broadcasting on SES's satellites in SD and HD quality at its prime TV neighbourhood at ASTRA 19.2 degrees East. Reaching up to

four million viewers a day, DELUXE MUSIC delivers a mix of current hits, classics and exciting new trends on 20 different editorially-curated shows and moderated programs. With this multi-year contract, viewers in the region will continue to enjoy free-to-air DELUXE MUSIC in SD, and in HD via SES's leading TV platform in Germany – HD+. “The multi-year agreement with HIGH VIEW for distributing DELUXE MUSIC proves how critical the reach of satellite is for broadcasters to maximise the value of their content across the widest audience. Across the German TV landscape, music is an essential TV genre that has brought much needed entertainment during the challenging past year,” said Christoph Mühleib, Managing Director of ASTRA Deutschland GmbH, part of SES.

ATEME to Enable Outstanding Video Quality for Korea’s Largest Broadcaster KBS

June 15, 2021 - ATEME, the leader in video delivery solutions for broadcast, cable TV, DTH, IPTV and OTT, today announced that Korean broadcaster KBS has selected ATEME's Kyrion encoders to update its legacy infrastructure, enabling broadcasting in high-quality MPEG-2 HD. As the largest broadcaster in Korea, KBS operates a wide range of platforms to deliver nationwide terrestrial service – including four terrestrial and two satellite channels, plus seven radio and four DMB channels. For KBS, providing a reliable broadcast service is particularly crucial due to its position as the most trusted media brand in Korea and its audience's reliance on its news service during times of emergency. This infrastructure update brings several benefits. First, it enables outstanding video quality and a surround-sound audio experience thanks to multi-channel audio support. Second, it enables KBS to streamline its video/audio flows as well as its operations by combining three pieces of legacy equipment into just one encoder. Third, it brings the stability and reliability introduced by SMPTE-310 configuration, while remaining compatible with KBS' existing ATSC system. And finally, it ensures the best live broadcasting experience for Korea's viewers with the lowest latency possible.

ONT is Targeting the Students by Launching its First Educational Satellite TV Channel “Wataniya Educational” over Arabsat’s Satellite,

June 14, 2021 - New promise for the viewers in North Africa, Tunisia, and for school pupils, who can now enjoy following their education classes from home on television and not miss any lessons for the current and future school years at all school levels. They can also review educational curricula and programs at any time by watching the programs of the first Tunisian educational channel “Wataniya Educational”. The National Radio and Television Broadcaster (ONT) has signed a long-term agreement with the Arabsat Satellite Communication Organization (Arabsat) to launch their first educational channel over the satellite Arabsat Badr-4, which covers the Middle East, North Africa and most Western European countries and offers a high power to be easily received throughout Tunisia and the across region, using dishes with smaller sizes . This agreement comes within the framework of the growing strategic partnership between the ONT and Arabsat. It is designed to provide a unique and high-quality viewing experience, in a unified satellite TV bouquet of national Tunisian channels, and to facilitate its distribution and access to Tunisian and Arab viewer wherever he/she is under the unparalleled coverage of Arabsat Badr-4. On April 1, 2021, the pilot broadcast of the channel took place, joining its sister national Tunisian channels broadcasting on the same bouquet.

Quickchannel Delivers High Quality Streaming Experience with Akamai’s Platform

June 14, 2021 - Quickchannel, a provider of high performance online streaming and recording services, has today announced a new partnership with Akamai Technologies, an international content delivery network (CDN) and cloud service company, following increased customer demand for broadcasting large scale live events to global audiences. As a highly distributed platform of servers that minimises delays in loading web and video content, a CDN allows users around the world to view the same high quality content without slow loading times. Founded in 1998 and with a presence in more than 135 countries, Akamai operates a global network of 325,000 servers and rents out capacity to customers who require their websites to work faster by distributing content from locations near the user. The company's CDN solutions provide a seamless web experience to its end users and have been embraced by a wide range of businesses.

M7 Group to Deliver UEFA EURO 2020 Matches in UHD via SES’s Astra 23.5 Degrees East Satellites

June 11, 2021 - M7 Group will deliver the UEFA EURO 2020 matches live in Ultra High Definition (UHD) to Dutch subscribers of Canal Digitaal from 11 June to 11 July, following an agreement with SES and Dutch Public Broadcaster NPO. The EURO 2020 matches will be delivered live in native Ultra HD to M7 Group's Canal Digitaal subscribers via a dedicated channel NPO1 4K, set up for the duration of the UEFA EURO 2020. NPO1 4K will be broadcast via SES's ASTRA satellites at 23.5 degrees East. The UHD broadcast of the UEFA EURO 2020 was initiated by Dutch public broadcaster NPO, which is keen to enable soccer fans to

enjoy an enhanced viewing experience. As innovative front runners, NPO also see this UHD transmission as an opportunity to better understand the requirements to boost the uptake of this new TV technology in Dutch homes.

Bibel TV Extends Capacity Agreement with SES on ASTRA 19.2 Degrees East

June 1, 2021 - The Bibel TV Foundation, Germany's leading Christian-oriented free-TV station, has extended its partnership with SES in a new multi-year contract that secures additional capacity for the Foundation to broadcast its channel on SES's satellites in its prime TV neighbourhood at ASTRA 19.2 degrees East. With this multi-year agreement, viewers in the region will be able to receive Bibel TV's full programming 24 hours a day. Bibel TV will broadcast via ASTRA 19.2 degrees East in SD and HD, giving Bibel TV access to a wider audience across broadcast standards.

LAUNCH / SPACE

EUTELSAT 36D Satellite Selected by Airbus to Embark its Latest Ultra High Frequency Payload

June 30, 2021 - EUTELSAT 36D satellite has been selected by Airbus Defence and Space to carry its latest Ultra High Frequency (UHF) payload. Airbus Defence and Space has already received firm pre-commitments on this payload. Operating in the dedicated 225-400MHz frequency band, the payload will address French governmental applications and other allied governmental applications to support communications over the EMEA region. Built by Airbus Defence and Space, the all-electric EUTELSAT 36D will assure all the main legacy missions of EUTELSAT 36B, with enhancements to coverage areas and performance. The satellite is due for launch in the first half of 2024. With coverage of Africa, Russia and Europe, 36° East is a key orbital slot for Eutelsat and ranks second behind 70° East in terms of revenue generation in Government Services.

Goonhilly Earth Station Ltd to Support Intuitive Machines' Missions to the Moon

June 29, 2021 - Intuitive Machines (IM) has entered a long-term agreement with Goonhilly Earth Station Ltd to support every stage of IM's missions to the Moon, from launch and early operations, through transit, and including lunar operations. IM will use Goonhilly's services for its 2022 IM-1 mission to the Moon, and future missions. Goonhilly Earth Station Ltd will be providing access to their newly upgraded deep space antenna GHY-6 to facilitate communications between the Intuitive Machines lunar mission and the ground. GHY-6 is a former satellite communications antenna that has been given a new life supporting deep space missions for ESA, NASA, and commercial endeavours, serving as the world's first private deep space communications asset. Qualification and testing of the refurbished ground station has been underway for many months, and the Intuitive Machines mission will be amongst the first spacecraft to be supported by GHY-6.

NASA Selects Space Flight Laboratory (SFL) for StarBurst Smallsat Mission

June 28, 2021 - NASA Marshall Space Flight Center has contracted Space Flight Laboratory (SFL) to develop a small satellite platform for the StarBurst astrophysics mission. Part of the newly formed NASA Pioneers Program, StarBurst seeks to detect high-energy gamma rays that are emitted from events such as the mergers of neutron stars. NASA announced the Pioneers Program in 2020 to develop small-scale astrophysics missions using small satellites, balloons, and modest International Space Station payloads to explore cosmic phenomena. In the first round, NASA selected four proposals to study galaxy evolution, exoplanets, high-energy neutrinos, and neutron star merger. Managed by the NASA Marshall Space Flight Center, StarBurst will focus on neutron star research, using a 250 kg smallsat built by SFL to observe the gamma rays emitted from these merger events, which form most of the heavy metals, such as gold and platinum, in the universe. It is believed StarBurst could observe up to 10 neutron star mergers every year. SFL will develop the StarBurst mission on its space-proven 1x1x1-meter scalable DAUNTLESS bus. Under Phase A of the program, SFL will complete the platform concept design, and upon approval by NASA, will then proceed with detailed design, integration, and testing of the spacecraft. SFL will also support the launch, commissioning, and operation of StarBurst, notionally scheduled for 2025.

Successful Deployment of First Mauritian Satellite, Selected in the 3rd Round of KiboCUBE Program

June 25, 2021 - On June 22, 2021, the CubeSat named MIR-SAT1, developed by the team of Mauritius Research and Innovation Council (MRIC), was successfully deployed from the Japanese Experiment Module "Kibo" of the International Space Station (ISS). This deployment was supported by the KiboCUBE program run by the Japan Aerospace Exploration Agency (JAXA) and the United Nations Office for Outer Space Affairs (UNOOSA), where the team was selected as the winner in the third round. The deployment

was broadcasted online for people in Mauritius considering the COVID-19 pandemic. Prime Minister of Republic of Mauritius The Hon. Pravind Kumar JUGNAUTH, Ambassador of Japan to Mauritius H.E. KAWAGUCHI Shuichiro, and other people in Mauritius witnessed the deployment virtually. MIR-SAT1 has become the first satellite for Mauritius, which is operated by MRIC since its deployment. The experience of development and operation of MIR-SAT1, such as image acquisition and communication demonstration, is expected to benefit the future space activities in Mauritius.

Airbus Millennium – 1000 Years’ of Service in Orbit

June 24, 2021 - Airbus designed and built Eurostar geostationary telecommunications satellites have clocked up 1000 years of successful service in orbit. The millennium milestone for the highly reliable world leading satellite series which have never suffered a failure in orbit, has been achieved by more than 100 Eurostar satellites that have been successfully launched since 1990. Commenting on the achievement, François Gaullier, Head of Telecom Systems at Airbus, said: “When people talk about milestones in space it’s sometimes hard to grasp their significance – but achieving 1000 years of successful operations is something very special. This proves beyond doubt that the Eurostar satellites are a true benchmark in terms of quality and reliability. During the last three decades of producing Eurostar satellites we have pioneered and introduced processed and flexible payloads, electric propulsion systems, active antennas, digitalisation and standardisation on the Eurostar series providing our customers with the latest and most efficient technology and systems. As we move forward with the OneSat range we are determined to build on the achievements of the Eurostars and maintain our unrivalled reputation for reliability and service.”

Maxar’s 3D Data Suite and Satellite Imagery to Support National Security Missions for the Australian Department of Defence

June 24, 2021 - Maxar Technologies announced that it delivered 3D data products and high-resolution satellite imagery to the Australian Department of Defence under recent multi-million-dollar contracts. Maxar’s 3D data suite – created from the company’s industry-leading, highly accurate satellite imagery – enhances situational awareness and decision-making for military applications. The 3D data suite includes a 3D Surface Model, which provides a high-fidelity, positionally accurate and photorealistic view of terrain and surface features and textures. The suite’s Digital Terrain Model product is a bare Earth elevation data layer generated with fully automated processing and delivered at speeds far beyond traditional technologies. With these latest contracts, Australia – a key U.S. ally and member of the Five Eyes intelligence alliance – demonstrates the increased adoption of commercial satellite imagery and derived data products for critical national defense and intelligence missions. The Australian Department of Defence has been a Maxar Direct Access Program partner since 2018, with the ability to directly task and download satellite imagery from Maxar’s current constellation in real-time to its ground station.

Thales Alenia Space and Partners Selected by the ESA to Supply Deep Space Antenna for New Norcia Ground Station in Australia

June 24, 2021 - The European Alliance for Deep Space Antennas (E-DSA) formed by Thales Alenia Space, Schwartz-Hautmont and mtex antenna technology has been selected by the European Space Agency (ESA) to supply a fourth deep space antenna for the New Norcia ground station near Perth, Australia. This new-generation 35-meter antenna will enable ESA to increase its communications capacity in X, K and Ka bands and to round out its network of antennas for tracking spacecraft and collecting science data from solar system missions, such as Exomars TGO, currently in orbit around the Red Planet, and BepiColombo, en route for Mercury, as well as upcoming missions including the Euclid astronomical observatory or the Juice mission to Jupiter, both set to launch in 2022. New Norcia is part of ESA’s ESTRACK global network of ground stations. Thales Alenia Space is the consortium partner in charge of overall performance of the antenna, set for commissioning in 2024. It will also be responsible for the antenna’s systems engineering, the overall system and equipment (RF, power, cooling, etc.). The construction of this deep space antenna marks a first for Thales Alenia Space. The challenge is to pick up very faint signals and then boost them considerably for transmission from and to objects in deep space, to enable reception of science data and uploading of commands to space probes. Thales Alenia Space will be relying on Thales’ expertise in Australia to finalize the terms of the civil engineering contract and oversee its execution, and on lessons learned by Telespazio in charge of the maintenance of one of the three ESA antennas for deep space communications in Malargue, Argentina.

NanoAvionics Adds Two Nanosatellites to SpaceX Transporter-2 Mission

June 24, 2021 - NanoAvionics is gearing up for the SpaceX Transporter-2 rideshare launch at the end of June, with several satellite missions from its customers, promising to have a positive impact on businesses

and communities in remote regions on Earth, as well as pioneering an ionic liquid electrospray propulsion system. Among the applications onboard are also the world's first 1U-sized hyperspectral imager and a new high-gain X-band antenna. The first of the two nanosats, named "D2 / Atacom-1", onboard Transporter-2 is a shared 6U satellite mission dedicated to an in-orbit demonstration of new satellite technologies as well as several novel satellite applications. They include the world's first 1U-sized hyperspectral imager to be ever flown, a new 1U tiled ionic liquid electrospray (TILE) propulsion system, a new high-gain X-band antenna and an upgraded X-Band downlink transmitter. The mission comprises "HyperActive", an international consortium and its partners, and an electric propulsion demonstration by Accion Systems. The second satellite is OQ Technology's Tiger-2. Built by NanoAvionics it is also the second mission for NanoAvionics with the company. The 6U satellite will grow OQ Technology's constellation, forming the first global 5G IoT (Internet of things) network that combines both satellite and terrestrial wireless networks, using regular 5G chips in mobile devices.

Arianespace to Serve Oneweb'S Ambitions by Reaching a Key Milestone with 254 Satellites in Orbit

June 23, 2021 - Flight ST33, the fifth commercial mission performed by Arianespace and its Starsem affiliate from the Vostochny Cosmodrome, will put 36 of OneWeb's satellites into a near-polar orbit at an altitude of 450 kilometers. The mission will have a total duration of three hours and 51 minutes and will include nine separations of four satellites, which will raise themselves to their operational orbit. This eighth launch to the benefit of OneWeb will bring up to speed Arianespace's operations this year, and will raise from 218 to 254 the number of satellites deployed for the global telecommunications operator. This launch will mark the completion of OneWeb's 'Five to 50' ambition to bring into orbit the satellites required to enable connectivity services to the 50th parallel and above by years end which includes Canada, U.K., Northern Europe, Alaska and Arctic regions. OneWeb's launch campaign will continue thereafter as it works toward delivering global service next year. OneWeb's constellation will deliver high-speed, low-latency connectivity services to a wide range of customer sectors including aviation, maritime, backhaul services, as well as governments, emergency response services and more. Central to its purpose, OneWeb seeks to bring connectivity to every place where fiber cannot reach, and thereby bridge the digital divide. Once deployed, the OneWeb constellation will enable user terminals that are capable of offering 3G, LTE, 5G and Wi-Fi coverage, providing high-speed access globally – by air, sea and land.

D-Orbit Signs Launch Contract with Aistech Space

June 23, 2021 - Space transportation and logistics company D-Orbit announced today the signing of a contract with Aistech Space, a global space technology company, for the launch and deployment of a 6U CubeSat aboard ION Satellite Carrier (ION), D-Orbit's orbital transportation vehicle. The nanosatellite, named Guardian, carries a multispectral telescope designed by Aistech Space, with a variety of sensors from the visible (RGB), near infrared (NIR), and thermal infrared (TIR) spectrum. Guardian will be launched and deployed with ION Satellite Carrier, the orbital transportation vehicle designed, manufactured, and operated by D-Orbit to transport a batch of satellites into space, perform orbital manoeuvres, and deploy them with precision into their operational orbits. Guardian will be integrated inside ION's dispensers, alongside other spacecraft, and deployed according to Aistech Space's requirements. Aistech Space is planning to deploy a constellation of 20 Guardian satellites. This will be one of the first commercial constellations able to collect thermal data on demand. Information captured by Aistech Space's multi-spectral telescope will support decision making in fields such as water management, forestry, environmental monitoring, and maritime security. The launch, slated for December 2021, will be the fourth mission of D-Orbit's ION Satellite Carrier.

ESA and EU Celebrate a Fresh Start for Space in Europe

June 22, 2021 - After months of constructive negotiations, ESA and EU signed a new Financial Framework Partnership Agreement (FFPA) in a ceremony to celebrate the launch of the new EU space programme. This will mark a fresh start for space activities in Europe and represents an important step forward in the relationship between ESA and EU. It is also one of the top priorities of Agenda 2025, the roadmap of ESA's Director General Josef Aschbacher. The new EU space programme will ensure the continuity and reinforces the very successful flagships such as Galileo, Copernicus and EGNOS, that were designed by ESA, and positioned Europe in a global leading role in the areas of Earth observation and navigation. It will also support new initiatives especially in the domain of secure connectivity, research and development and space commercialisation, where ESA will play a key role, also offering new funding opportunities for entrepreneurship. The agreement signed today represents an EU investment of almost €9 billion in the period of 2021 to 2027, for ESA and European industry to design new-generation systems and programmes, crucial for the economy and a green and digital Europe. This funding adds to ESA's budget

and thus consolidates an ambitious set of mandatory and optional programmes, as defined by ESA Member States.

Airbus Defence and Space Selects ANYWAVES's S-band TTC Antenna for Observation Constellations

July 22, 2021 - Selected by the French Space Agency (CNES) in July 2019 to develop the CO3D Earth observation program, Airbus Defence and Space will equip its constellation with ANYWAVES' S-Band TTC antennas. ANYWAVES has been selected by Airbus Defence and Space to supply the antennas that will provide telecommand and telemetry to the four satellites making up the CO3D constellation (Constellation Optique 3D). In addition to the CO3D mission, a five-year framework contract formalizes this industrial partnership. For the next similar satellites Airbus intends to produce, ANYWAVES will provide "on demand" the S-band TT&C antennas required to control the platform. Through this contract, ANYWAVES commits to volumes of up to dozens of antennas per order, enabling very ambitious constellations. A complete offer in addition to the antennas to be supplied to CO3D, ANYWAVES will also deliver test caps to Airbus Defence and Space. These additional equipment, used at integration time, allow to check the antenna proper functioning before the final acceptance tests performed on the platform.

JAXA and Philippine Space Agency (PhilSA) Sign Memorandum of Cooperation

June 16, 2021 - President Yamakawa of JAXA and Director General Marciano of the Philippine Space Agency (PhilSA) have signed today a Memorandum of Cooperation on Space Development and Application. The signing ceremony was graced by the presence of H.E. Mr. Jose Castillo Laurel V, Ambassador of the Republic of the Philippines to Japan, and H.E. Mr. Koshikawa, Ambassador of Japan to the Philippines. At the closure of the signing ceremony, Secretary Fortunato T. de la Peña of the Department of Science and Technology (DOST) also gave a congratulatory address. JAXA has been building a close cooperative relationship with the Philippines since before the establishment of PhilSA through its promotion of disaster management-related research in the Philippines, the deployment of PHL-Microsat-1 or "DIWATA-1," the first microsatellite designed and built by the Philippines, from the Japanese Experiment Module "Kibo" on the International Space Station in 2016, and the launch of the PHL-Microsat-2 or "DIWATA-2" onboard the H-IIA launch vehicle in 2018. With the conclusion of this agreement, the two organizations will further strengthen their cooperation.

Lockheed Martin-Built Next Generation GPS III Satellite Propels Itself to Orbit

June 17, 2021 - The fifth Global Positioning System III (GPS III) satellite designed and built by Lockheed is now headed to its orbit 12,550 miles above earth. This marks another step in supporting the U.S. Space Force's GPS satellite constellation modernization efforts. Launched earlier today, GPS III Space Vehicle 05 (GPS III SV05) is the latest next-generation GPS III satellite, a warfighting system owned and operated by the Space Force. GPS III SV05 will be the 24th Military Code (M-Code) signal-enabled GPS space vehicle on orbit, completing the constellation's baseline requirement to provide our military forces a more-secure, harder-to-jam and spoof GPS signal. Part of U.S. critical national infrastructure, GPS drives an estimated \$300 billion in annual economic benefits and is responsible for \$1.4 trillion since its inception. Globally, more than 4 billion military, civil and commercial users depend on GPS' positioning, navigation and timing signals.

Thales Alenia Space and Telespazio Win Contract for SICRAL 3

June 16, 2021 - Thales Alenia Space have signed a contract with the Italian Ministry of Defense, represented by TELEDIFE / Secretariat General of Defense, for the development of the SICRAL 3 secure satellite communications system, including its ground segment. Covering the development of phases B and C1, the contract is worth a total of approximately €159 million, as result of an articulated and complete negotiation process. The SICRAL (Italian System for Secure Communications and Alerts) program deploys geostationary satellites for confidential strategic and tactical communications, to support defense missions both in Italy and abroad. The new SICRAL 3 system is designed to meet Italian defense communications and interoperability requirements. It will ensure continuity with the current SHF and UHF-band telecom services provided by the SICRAL 1A, 1B and SICRAL 2 satellites, while expanding its suite of services by providing a Ka-band payload, as well as supporting security, public rescue and civil protection services. SICRAL 3 will also capitalize on the ongoing developments within the ItalGovSatCom (I-GSC) program, a pillar of the evolving "Space Economy" and the Programmes of Military Research, and will help expand NATO's current satellite capabilities. To develop the SICRAL 3 program, Thales Alenia Space and Telespazio, via their Space Alliance, have created a temporary consortium led by Thales Alenia Space, with Telespazio also playing a major role.

LeoLabs Partners with SpaceX for Rideshare Mission Support

June 16, 2021 - LeoLabs is pleased to announce that we will provide our Launch and Early Orbit tracking service to SpaceX's customers as part of their SmallSat Rideshare Program. Drawing on the success of providing this service to satellite operators on the Transporter-1 mission, LeoLabs will provide this support to users for the next six Transporter missions plus multiple smaller rideshares. LeoLabs Launch and Early Orbit is a real-time operational satellite tracking service that has been proven to help satellite operators reliably identify and establish contact with their payloads, with data deliveries beginning just hours after mission launch. SpaceX's willingness to provide this one-of-a-kind tracking service from LeoLabs to their customers shows their commitment to safe and responsible operations in space.

AAC Clyde Space Wins UK£4.6 Million Order from Horizon Technologies

June 16, 2021 - AAC Clyde Space, a leading new space company, has won a UK£4.6 million order for a full turn-key solution from Horizon Space Technologies, including two new satellite launches, operations and data delivery. The satellites will become part of the Horizon Space Technologies' Amber™ constellation dedicated to delivering Maritime Domain Awareness (MDA) intelligence data. The EPIC-6U satellites will be able to locate and track vessels worldwide by geolocating and demodulating RF signals in a system that can be used to fight piracy, illegal trans-shipments, illegal fishing, and refugee smuggling, but can also be used for other purposes such as detecting and tracking a variety of RF emitters. The mission delivers a commercial service and may be extended to include more than ten additional Amber™ CubeSats. Horizon Space Technologies' first customer is the UK National Maritime Information Centre (NMIC) in Portsmouth. The two satellites in this order are scheduled for launch in the 2nd half of 2022. The order is a follow-on order from the Satellite Applications Catapult IOD programme (IOD-3 AMBER), for which AAC will also deliver a 6U CubeSat to the International Space Station (ISS) in 2021, from where it will be deployed into orbit.

Rocket Lab Awarded Contract to Design Twin Spacecraft for Mars

June 15, 2021 - Rocket Lab has been awarded a contract to design two Photon spacecraft for a scientific mission to Mars. The Escape and Plasma Acceleration and Dynamics Explorers (ESCAPADE) mission, led by Rob Lillis at the University of California, Berkeley Space Sciences Laboratory, is a twin-spacecraft science mission that will orbit two spacecraft around Mars to understand the structure, composition, variability, and dynamics of Mars' unique hybrid magnetosphere. The mission will leverage its unique dual viewpoint on the Mars environment to explore how the solar wind strips atmosphere away from Mars to better understand how its climate has changed over time. ESCAPEDE is being developed under NASA's Small Innovative Missions for Planetary Exploration (SIMPLEX) program in the Science Mission Directorate (SMD). The two spacecraft are planned for launch in 2024 to Mars ridesharing aboard a NASA-provided commercial launch vehicle. Following an 11-month interplanetary cruise, the two Photons (named Blue and Gold) will insert themselves into elliptical orbits around Mars and conduct a 1-year primary science mission. ESCAPEDE's Photons will use the flight-proven Curie propulsion system to perform Mars orbit insertion and will be equipped with other subsystems that enable planetary science, including star trackers and reaction wheels for precision pointing from Rocket Lab's Sinclair Interplanetary team, as well as ranging transceivers for deep space navigation.

Exolaunch to Send its Largest Mission of One Ton of Smallsats into Orbit via SpaceX's Transporter-2

June 14, 2021 - Exolaunch, the leading launch, deployment and in-space transportation services provider in the NewSpace sector, has just completed its launch campaign named Fingerspitzengefühl by integrating 29 small satellites from the USA, Europe and South America aboard SpaceX's Falcon 9 rideshare mission scheduled for June 2021. With a combined mass of close to one ton, Exolaunch doubles its mass capacity from SpaceX's previous rideshare for small satellites, making Fingerspitzengefühl its largest mission in terms of payload mass to date. This will also be one of the most diverse rideshare missions for the company bringing the total number of satellites launched by Exolaunch to 170. Exolaunch's rideshare cluster includes payloads with cutting-edge technologies for IoT, Earth observation and scientific applications, and satellites from its international customers such as Loft Orbital, NanoAvionics, ICEYE, and the TU Berlin. Exolaunch is also providing flight hardware, separation systems and integration services to support Satellogic's four microsats on this mission.

JAXA and Honda to Begin a Feasibility Study on a Circulative Renewable Energy System

June 14, 2021 - The Japan Aerospace Exploration Agency (JAXA) and Honda R&D Co., Ltd. (Honda) today announced the plan to begin a joint feasibility study on a "circulative renewable energy system" in space, which is designed to supply oxygen, hydrogen, and electricity for human outposts and rovers. JAXA and

Honda have been conducting a joint research on this system to create an environment in space where people can stay and conduct activities over an extended period of time. In this joint research, while JAXA has been developing the study conditions according to the scenarios and requirements for missions related to the production of oxygen on the Gateway and the supply of electricity to rovers on the lunar surface based on the past investigations, Honda has been conducting technological studies to realize the missions and scenarios set by JAXA.

Thales Alenia Space to Provide Optical Inter Satellite Links for Telesat's Lightspeed Constellation

June 11, 2021 - As prime contractor for the construction of Telesat's Lightspeed constellation, Thales Alenia Space is announcing today that the Optical Inter Satellite Links (OISL) on-board the Lightspeed satellites will be its advanced Optel-C product. Optical Inter Satellite Links will allow Lightspeed to provide global, mesh coverage around the world, including above the oceans and poles, with a high level of security for end-to-end services. Their use will optimize the ground segment with a lower number of gateway sites, more freedom on gateway locations, and the ability to deploy gateways incrementally as system loading increases. The initial Lightspeed space segment will be comprised of 298 satellites. Telesat's constellation satellites will deliver multiple terabits per second across the globe for secure, low-latency, high-performing broadband professional services. The Optel-C product builds on more than 20 years' experience from Thales Alenia Space in Switzerland in optical communications and space optoelectronics instruments covering engineering, design analysis and assembly integration & tests for opto-mechanics, electronics and photonics. The product consortium involves several partners in Italy, France, Canada, Switzerland and UK.

Philippines MULA Earth Observation Satellite Passes Qualification Status Review at SSTL

June 9, 2021 - Surrey Satellite Technology Ltd (SSTL) and the Advanced Satellite for the Philippines and Know-how Transfer for the Philippines (ASP) Project of the Space Technology Applications Mastery, Innovation and Advancement (STAMINA4Space) program are pleased to announce that the newly-named MULA (Multi-spectral Unit for Land Assessment) satellite has passed its Qualification Status Review at SSTL – a key design phase milestone. The project is implemented by the University of the Philippines Diliman (UPD) and the DOST-Advanced Science and Technology Institute (DOST-ASTI) in coordination with the Philippine Space Agency (PhilSA). SSTL is providing a Know-How Technology Training Programme to develop the design of the MULA satellite, an Earth observation small satellite based on SSTL's new 130kg TrueColour spacecraft. MULA will provide 5m resolution imaging with a wide swath width of 120km and will utilize 9 spectral bands for a range of environmental applications including wide area disaster management, land use and land cover change mapping, crop monitoring, and forestry management. The satellite will also fly AIS (Automatic Identification System) and ADS-B (Automatic Dependent Surveillance – Broadcast) payloads for ship and aircraft detection and tracking. In 2019 SSTL and DOST-ASTI signed a contract for the provision of a share of the tasking and data acquisition services from NovaSAR-1, SSTL's small S-Band radar satellite launched in September 2018. That agreement gives DOST-ASTI tasking priorities over the Philippines and the ability to access the raw data directly from the satellite, with a license to use and share the data with their partners over an initial five year period, extendable to the actual lifespan of the satellite.

Yahsat and Airbus Complete Preliminary Design Review of Thuraya 4-NGS

June 9, 2021 - Al Yah Satellite Communications Company and Airbus announced the realisation of a key milestone in the construction of the Thuraya 4-NGS next generation mobile telecommunications system, the successful completion of its Preliminary Design Review (PDR). Thuraya 4-NGS is part of a transformational programme delivering a comprehensive, new L-band ecosystem with the upgrade of Thuraya's space and ground, and user (products and solutions) segments. Complemented by a 5G-ready core network, Yahsat's newest satellite system will ensure increased coverage and capacity, while delivering next generation mobility solutions for all customer segments, including defence, government, enterprise and consumers. The PDR provided a comprehensive review, validating Airbus' design approach for both the physical and functional requirements of the satellite system. It also marked an important step towards the on-schedule completion of the Thuraya 4-NGS satellite and confirms its effectiveness for in-orbit operation. In addition to the PDR being a major milestone in the programme's development, the achievement also demonstrates Yahsat's commitment towards transforming Thuraya and building its next-generation system.

UP42 Expands Optical and SAR Data Offering with SI Imaging Services of Korea

June 9, 2021 - UP42 and SI Imaging Services (SIIS) of Daejeon, South Korea, have signed an agreement to

make imagery from the KOMPSAT satellites available on the UP42 marketplace and developer platform. The deal includes high-resolution optical imagery from KOMPSAT-3 and -3A, and synthetic aperture radar (SAR) data from KOMPSAT-5. KOMPSAT imagery is a valuable addition to the more than 50 geospatial data sets now available on the UP42 marketplace, including satellite imagery from five international organizations. UP42 users will find imagery from the Korean constellation complements other data products by offering diverse spatial and spectral capabilities, broad dynamic ranges, afternoon acquisition times, extensive archives, and attractive price points. Wiid predicts one of the most important impacts on new use cases for UP42 users will come in the area of intraday monitoring – with the aid of KOMPSAT’s afternoon collection times. The addition of KOMPSAT data will also provide existing UP42 users with more options to augment infrastructure monitoring and vegetation management use cases.

Relativity Unveils its Plans for Terran R, the First Fully Reusable, Entirely 3D-Printed Rocket

June 8, 2021 - Relativity Space has revealed its plans for Terran R, its fully reusable, entirely 3D-printed launch vehicle. To help scale production for Terran R, Relativity also announced a \$650 million Series E equity funding round. The round was led by Fidelity Management & Research Company LLC with participation from investors including Baillie Gifford, funds and accounts managed by BlackRock, Centricus, Coatue, K5 Global, Soroban Capital, Tiger Global, Tribe Capital, XN, Brad Buss, Mark Cuban, Jared Leto, and Spencer Rascoff’s 75 & Sunny, among others. Combined with the ability to launch 20X more payload than Terran 1, Terran R provides both commercial and government customers affordable access to space, in LEO and beyond. With low earth orbit, medium earth orbit and geosynchronous satellite constellations representing the largest part of the growing market, Terran R helps accommodate the company’s growing pipeline of commercial interest, including the recent signing of its first anchor customer launch contract for Terran R.

Airbus Readies the No. 2 European Service Module for its Crewed Mission to the Moon

June 8, 2021 - The second European Service Module’s (ESM) flight model is well into the integration test phase as Airbus readies it for the initial Orion mission with astronauts – which will fly around the Moon and return to Earth. performed at Airbus Defence and Space’s facility in Bremen, Germany, the ESM-2’s validations already completed include gimbal testing of the module’s main engine (which swivels from side to side for manoeuvring and directional control during spaceflight). This main engine is a refurbished engine from Space Shuttle Atlantis to power humans back to the Moon. The ESM is Europe’s contribution to the U.S.-developed Orion spacecraft for the National Aeronautics and Space Administration (NASA), providing propulsion, power, water, oxygen, and nitrogen – as well as keeping it at the right temperature and on course during flight. Orion will open a new era in space exploration, taking astronauts to the Moon and beyond.

Virgin Galactic Announces New Contract for Human-tended Spaceflight Research

June 3, 2021 - Virgin Galactic Holdings, Inc., a vertically integrated aerospace and space travel company, has announced a new contract to fly Kellie Gerardi, a researcher for the International Institute for Astronautical Sciences (IIAS), on a dedicated research flight, during which Kellie will conduct experiments and test new healthcare technologies while she is in space. The IIAS and Virgin Galactic teams will collaborate with academic and government partners to carefully plan Kellie’s flight activities to maximize the science and technology advancements gained from the research experiments. Kellie will utilize the novel scientific research benefits and applications that Virgin Galactic’s Spaceflight System provides for human-tended research experiments to demonstrate and advance the research and knowledge gained from a number of her previous reduced gravity flight campaigns performed here on Earth, including with the National Research Council of Canada (NRC) and the Canadian Space Agency (CSA). Virgin Galactic expects to provide new benefits to the space science research community by offering repeatability, affordability and quality of the weightless environment, which have historically been barriers for many wanting to conduct spaceflight research.

The Federal Aviation Administration Approves Rocket Lab to Resume Launches

June 2, 2021 - Rocket Lab has received authorization from the Federal Aviation Administration (FAA) to resume launches. The approval comes fewer than three weeks after Rocket Lab experienced an anomaly during its 20th launch, resulting in the loss of the mission. Rocket Lab is leading the mishap investigation into the anomaly with oversight from the FAA, the federal licensing body for U.S. launch vehicles. While the FAA has confirmed that Rocket Lab’s launch license remains active, Rocket Lab will continue with a rigorous internal review into the anomaly. The review team is working through an extensive fault tree analysis to exhaust all potential causes for the anomaly and the full review is expected to be complete in

the coming weeks, following which Rocket Lab anticipates a swift return to flight. Rocket Lab continued receiving good telemetry from Electron following the engine shutdown, providing engineers with comprehensive data to review. The data is being methodically scoured to enable the review team to accurately pinpoint the issue and implement corrective actions for future missions.

EXECUTIVE MOVES

Alexey Volin Appointed Director General of Russian Satellite Communications Company

June 30, 2021 - Alexey Volin has been appointed Director General of Russian Satellite Communications Company (RSCC). The appropriate order of the Ministry of Digital Development, Communications and Mass Media of the Russian Federation No.353-k was signed on 23 June 2021. From 28 June 2021, Alexey Volin has entered upon his duties. Since 2000 he was Deputy Head of the Office of the Government of the Russian Federation. In 2003, Alexey Volin put together the group that built the Medialogia information service. In 2003-2007, he served as President of the Rodionov Publishing House. In 2007, he was General Director of the Amedia Film Company. In 2008-2010, he produced four serials on historical themes. In 2011-2012, Alexey Volin was President of A3 LLC, one of Russia's pioneer companies engaged in online payment for utilities. From July 2012 to October 2020, Alexey Volin served as Deputy Minister of Digital Development, Communications and Mass Media of the Russian Federation. He was responsible for the digitalization of Russian television and shutdown of analog broadcasting. On June 28, 2021, he was appointed Director General of Russian Satellite Communications Company.

ICEYE Expands Satellite Offering in Japan, Makoto Higashi Joins as General Manager for Local Business Operations

June 23, 2021 - ICEYE has partnered with Makoto Higashi to act as the General Manager of ICEYE's business operations in Japan. Mr. Higashi has over 40 years of experience in business operations, including previous positions as the CEO & President of Japan Space Imaging Corporation, and GM, GEOINT, at Hitachi Ltd. ICEYE's operations in Japan will be dedicated to services for the Japanese government and local commercial organizations. Within the first 12 months, ICEYE plans to open an office in Tokyo and expand to an initial 10-person team serving the Japanese market. The insurance organization Tokio Marine & Nichido Fire Insurance is among ICEYE's Japan-based customer base. The organization receives ICEYE's insights from its global flood monitoring solution to serve its insurance customers with significantly faster claims payments after natural catastrophes. ICEYE Japan offices are opening in Tokyo within the next 12 months, with initial recruitment focusing on local commercial operations. ICEYE has so far launched 10 radar satellite missions since early 2018, including dedicated satellites for customers. The company has gathered \$152 million in financing to date, with offices in Finland, Poland, US, UK, Spain, and Japan. For 2020, ICEYE has reported \$50 million in signed contracts for the year.

Iridium Names Greg Pelton as New Chief Technical Officer

June 14, 2021 - Iridium Communications Inc. today announced that Greg Pelton will join the company as Chief Technical Officer (CTO), effective June 17, 2021. Reporting to Iridium Chief Operations Officer Suzi McBride, Pelton is taking over for retiring CTO Hermon Pon and will lead Iridium's world-class technology and system engineering teams both internally and with Iridium's vast partner ecosystem. Pelton joins Iridium from Pryon, an AI company focused on augmented intelligence for the enterprise, where he served as Chief Product Officer. In this role he was responsible for all aspects of the company's augmented intelligence product portfolio, leading the engineering team and product development efforts. Prior to this, Pelton was Vice President of Collaboration and Devices at Avaya, where he managed a portfolio of voice and video endpoints, soft clients and collaboration services. Before Avaya, he served as CTO and Vice President for Infrastructure Engineering at Polycom and led Cisco's corporate Technology Center where he worked on the Internet Routing in Space (IRIS) program consisting of developing a router for use in satellites and transitioning of satellite ground networks to multiservice IP networks.

Nicolas Furgé Joins the Marlink Group to Head up New Digital Solutions Business Unit

June 7, 2021 - Marlink, the leading provider of smart network solutions, has announced the appointment of Nicolas Furgé as President of the recently created Digital and IT Solutions business unit. Furgé will focus on leading and scaling-up the activities of two units, IT-Cybersecurity and IoT-Digital, increasing the penetration of digital solutions to Marlink customers across markets including customers in maritime, oil and gas, mining and NGOs. The new business unit will play a key role in supporting Marlink customers as they increasingly transition to digital operations, highlighting revenue-generating and cost-saving

opportunities within a cyber-secure framework. Furgé will report directly to Marlink CEO Erik Ceuppens and join the Marlink Group's Executive Management Committee. He has a project and product management background that includes telecommunications and IT development and has acquired strong international expertise including in Asia and the US.

Datapath Appoints Mike Antonovich Vice President of International Sales & Business Development

June 3, 2021 - DataPath, Inc., a leading provider of mission critical solutions and services in the communications industry, announced today the appointment of Michael "Mike" Antonovich to the position of Vice President of International Sales and Business Development. Antonovich comes to DataPath after serving as the Chief Executive Officer for Eutelsat Americas, Inc. Prior to that assignment, he held the position of Senior Vice President of Global Sales for Japan-based Media Global Links, Inc. Antonovich began his career with ESPN Sports Network, Group W Satellite and PanAmSat/Intelsat where he rose from Manager of Broadcast Services to Executive Vice President of Global Sales and Marketing. He also has served in senior leadership roles in a variety of industry leading companies including The Spaceconnection, Global Crossing/Genesis Networks, Roberts Communication Networks and ATEME.

REPORTS

NSR Report - Satellite Capacity Sees Post-COVID-19 Demand Uptick via Supply Developments

June 23, 2021 - Offering a complete picture of the satellite communications landscape through the next decade, NSR's *Global Satellite Capacity Supply and Demand, 18th Edition (GSCSD18)* is a roadmap of growth opportunities across 13 regions through the next decade. This industry-leading market analysis is anchored on key quantitative metrics including capacity demand on FSS C-, Ku- and Ka-band as well as GEO-HTS and Non- GEO-HTS, revenues, and market share by satellite operator. GSCSD18 provides the strategic analysis and overview, central to capturing and unlocking this evolving market.

Cloud Computing via Satellite Adoption Triggers Multi- Segment Transformation

June 14, 2021 - As adoption of cloud computing continues, NSR's latest report, *Cloud Computing via Satellite, 2nd Edition (CCvS2)* forecasts \$21 billion cumulative cloud services revenues by 2030 across four key market segments. The impending wave of both LEO, MEO and GEO-HTS satcom services is set to significantly boost long- term cloud adoption and enhance market engagement opportunity, with 233 exabytes of traffic projected.

New WTA Report, 2021 Cloud Forecast for Teleport Operators, Explores Demand for Cloud Services

June 11, 2021 - The World Teleport Association (WTA) today released 2021 Cloud Forecast for Teleport Operators, a new research report that explores how teleport operators are letting cloud services transform their operations, the markets where they are finding cloud service growth and the requirements for success in a cloud-dominated environment. It was in 2018 that WTA first reported on how teleport and satellite operators were integrating the cloud into their operations and client solutions.

New NSR Report Projects U-shaped Recovery by 2023 for Aero IFC Revenues

June 7, 2021 - NSR's latest report, *Aeronautical Satcom Markets, 9th Edition (Aero9)* sees a rebound on the horizon for significantly impacted aero In-Flight Connectivity (IFC) services, with a U-shaped recovery underway and revenue expected to reach \$38.8 Billion through 2030. A clear trend of accelerated migration to High Throughput Satellite (HTS) networks drives growth, and with recovery from COVID-19 losses by 2023, Aero HTS capacity demand will reach 924 Gbps by 2030. While 2nd wave restraints moved COVID-19 recovery timelines further to the right, the trend of accelerated migration to HTS networks is evident in the technology roadmaps of top service providers and integrated operators such as GoGo's recent transition to the 2Ku network. Overall, the coming improved inflight connectivity experience will drive user take-up rates and bandwidth utilization. As revenue and capacity demand skyrocket and pricing declines, major service providers and integrated operators will be the ones to watch.

UPCOMING EVENTS

APSCC 2021 Webinar Series, Virtual Event, <https://apscsat.com>

LIVE Every Tuesday 9AM HK I Singapore Time

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



SatelliteAsia Summit, July 15-16, Online Event <https://www.connectechasia.com/satellite-asia/>
The Asia-Pacific Satellite Communications Council (APSCC), in conjunction with Informa Tech, will present interactive online sessions at SatelliteAsia 2021 as part of Asia Tech x Singapore, Asia's biggest telecom industry event. The program will be focused on customer verticals, and will feature case studies, executive interviews, presentations and themed interactive sessions – all intended to showcase APSCC members, and provide a value-added experience for participants. [GET FREE TICKETS TO SATELLITEASIA](#)

Satellite 2021: Future Space Digital Forum, July 26-29, <https://www.satshow.com/>

36th Space Symposium, August 23-26, Colorado Springs, Colorado, USA, <https://www.spacesymposium.org/>

Satellite 2021, September 7-10, National Harbor, MD., USA, <https://www.satshow.com/>

NAB Show, October 9-13, Las Vegas, USA, <https://nabshow.com/2021/>

CABSAT 2021, October 26-28, Dubai, UAE, <https://www.cabsat.com/>

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About APSCC

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