

# APSCC Monthly e-Newsletter

## February 2023

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

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

### SATELLITE BUSINESS

#### **ATLAS Works with AWS to Advance Federated Network and Expand Ground Station Coverage**

January 31, 2023 – ATLAS Space Operations will join the Amazon Web Services (AWS) Solution Provider Program (SPP) to resell AWS Ground Station, a fully managed ground station infrastructure which lets customers control satellite communications, process data, and scale their operations. The SPP is an official AWS program allowing specific AWS Partners to resell AWS services to end customers as part of their unique offerings. The SPP will expand ATLAS' global federated network, a network of networks that work together seamlessly through Freedom™, ATLAS' proprietary software that integrates its global ground network with partnered ground antenna sites. ATLAS clients will now have access to 11 additional ground sites, giving customers low-latency and low-cost access to AWS services so that they can quickly store and process their data. The Freedom software abstracts complexity through features such as flex scheduling, streaming metrics, pass insights, status updates, and one endpoint for all TT&C. This facilitates automation and integration into existing architectures.

#### **MEASAT Partners Parcel365 to Unlock Digital Economy Potential in Rural Areas**

January 27, 2023 – MEASAT Global Berhad ("MEASAT"), Malaysia's Rural Broadband Service Provider, has signed a memorandum of understanding (MoU) with Parcel365 Sdn Bhd and M2B Services Sdn Bhd (collectively "Parcel365") to collaborate on the Digital Village365 initiative that aims to uplift rural communities and stimulate digital economic activities for B40 communities. In the Digital Village365 initiative, Parcel365 will offer logistics and eCommerce platform services as well as training sessions at suitable CONNECTme NOW locations identified by MEASAT. Through Parcel365's app-based smart locker pick-up and drop-off services, rural residents can overcome the challenges of lacking a proper address for pick-up and delivery in remote villages, while its sister platform Shopla365 offers eCommerce platform support and business solutions, as well as training to help villages optimise their digital economy potential. These services will be facilitated through MEASAT's CONNECTme NOW WiFi hotspots, powered by its high-speed satellite broadband service, to enable digital applications including transactions, communications, training and other relevant use cases.

#### **ST Engineering iDirect Delivers Flagship IoT Solution to ARSAT**

January 25, 2023 – ST Engineering iDirect has delivered its flagship Internet of Things (IoT) solution to ARSAT, the national telecommunications company of Argentina. ARSAT provides wholesale connectivity to bridge the digital divide between towns and cities across the country. The company has identified the requirement for satellite-based IoT services that enable businesses and organizations in remote areas to take advantage of sensor technology and Big Data management developments. The IoT solution incorporates an IoT-optimized waveform and a cloud-based network management system (NMS) powered by technology from ST Engineering iDirect's strategic partner hiSky, a leading provider of satellite agile IoT networks. This will enable ARSAT to tackle a range of in-country challenges across vertical markets. Applications include the implementation of fleet tracking solutions and more efficient farming practices. For example, the solution will permit the collection of

critical data from sensors located on farms for the monitoring of everything, from soil moisture to the health of livestock and the condition of farm vehicles, thus enabling informed decision-making for farmers.

#### **Mynaric Signs Order from WARPSPACE for CONDOR Terminals**

January 24, 2023 – Mynaric announced an order for a small number of CONDOR Mk3 terminals by Japan-based WARPSPACE. The terminals will be used by WARPSPACE to establish a commercial optical data relay network for Earth observation satellites with product deliveries scheduled for 2023, 2024 and 2025. The order marks Mynaric's first sale in the Japanese space industry, which is expected to grow from \$9 billion today to over \$30 billion by 2050, according to a market report by the New Zealand Ministry of Foreign Affairs and Trade. Mynaric's CONDOR family of optical communications terminals is specifically designed for mass deployment as part of government and commercial satellite constellations. It has previously been selected by Northrop Grumman for the Space Development Agency's (SDA) Tranche 1 Tracking Layer and the Tranche 1 Transport Layer programs, by Capella Space for commercial synthetic aperture radar (SAR) satellites, by Telesat for the DARPA Blackjack program and others. In addition, Mynaric was named a key development partner for Phase 1 of DARPA's Space-BACN program and was selected by the European Space Agency (ESA) to investigate optical technologies for next generation high-throughput optical inter-satellite links.

#### **Viasat Awarded Satellite Communications Managed Services Contract by US Marine Corps**

January 24, 2023 – Viasat Inc. announced it was awarded a contract to provide end-to-end satellite communications (SATCOM) support through a fully managed service to the United States Marine Corps (USMC). The contract is an extension following a successful pilot and follow-on service program in the government's FY22 through which Viasat delivered a fully managed SATCOM as a Managed Service (SaaS) solution to the USMC I Marine Expeditionary Force (I MEF), the Marine Corps' largest warfighting organization. This is the first commercially developed SaaS implemented by a USMC command. Under this fully managed SATCOM service, Viasat has provided I MEF with a resilient beyond-line-of-sight communications capability that is both scalable and rapidly deployable to meet contract and operational requirements. This commercially developed SaaS capability has enabled I MEF to extend its command and control (C2) to the tactical edge, supporting Marine exercises, Marine Expeditionary Units and Stand in Force rotational deployments with on-demand satellite connectivity and data transport. The SaaS is designed to provide greater flexibility to meet changing connectivity demands, support Multi-Domain Operations, and increase the safety of deployed forces through reliable and resilient communications.

#### **Ivanhoe Mines and SES to Continue Deploying Low-latency Satellite Connectivity in Africa**

January 23, 2023 – The Kamoakakula Copper Project in The Democratic Republic of Congo will continue to enjoy high-speed satellite-based connectivity services as part of a new agreement between Ivanhoe Mines and SES, the two companies announced today. The enhanced partnership builds on a successful five-year relationship between SES and Ivanhoe Mines and comes at a time of significant investment in low-latency, high-capacity solutions in the region following the boom in the African mining industry. The O3b constellation is powering connectivity for leading mining operators, driving a digitalisation revolution for the sector that is helping to increase profitability while improving worker safety and accountability. This model enables operators to cost-effectively scale connectivity as needed throughout the lifecycle of a mine, ensuring assets have the right amount of bandwidth at any given time to meet digitalisation requirements.

#### **OneWeb and Marsh's Mission-Critical Collaboration Continues; Remaining Gen1 Launches Insured**

January 19, 2023 – OneWeb and Marsh announced that their relationship will continue through in 2023, covering launches from the US and India. OneWeb signed an agreement for an aggregate insured value of more than \$1 billion through Marsh in September 2021 and now that relationship

will cover the remaining satellite launches for OneWeb to complete its Gen1 constellation. The insurance programme has continued to underpin the development of OneWeb's communications capabilities in established and new markets. This month, OneWeb completed its 16th launch to date, on a Falcon 9 rocket from SpaceX in Florida, to bring its total constellation to 542 satellites – more than 80% of its Gen1 constellation. This milestone followed the resumption of the business' satellite deployments, with OneWeb's successful 14th launch on a LVM-3 rocket from NewSpace India Limited at Sriharikota, India, in October 2022 and a SpaceX launch in December on another Falcon 9. OneWeb remains on track to initiate global coverage in 2023, while its connectivity solutions are already live in the wider Arctic region including Canada, Alaska, the UK and beyond.

### **Comtech Unveils New Corporate Logo and Brand Identity**

January 18, 2023 – Comtech is releasing a new logo and brand identity today that align with the company's customer-centric focus and commitment to accelerating the global technology trajectories that will connect the unconnected, bridge the digital divide, and empower people by providing access to data and insight in new and unprecedented ways. Comtech recently underwent a transformational change to unite the enterprise, build on its collective strengths, solidify foundations for its future, and energize transformation across the industry. Comtech's new vision of "building connections that set ideas free" is an embodiment of the dedication and commitment to excellence in the company's innovative culture and passion for customer success.

### **Carnival Corporation Expands Next-Generation Wi-Fi Connectivity with SpaceX's Starlink**

January 18, 2023 – Carnival Corporation & plc announced an agreement for the next-generation of internet connectivity across its global fleet, the latest in a series of moves that have nearly tripled ship bandwidth since 2019. The company has signed a new agreement with SpaceX's Starlink, the leader in Low Earth Orbit (LEO) satellite technology, to provide faster service, greater capacity and more reliable Wi-Fi on a global scale. Fleet roll-out of Starlink began in December 2022 with Carnival Cruise Line and AIDA Cruises ships, with plans to expand Starlink to several of the company's other world-class cruise brands, which include Princess Cruises, Holland America Line, Seabourn, P&O Cruises (Australia), Costa Cruises, P&O Cruises (UK) and Cunard. Rivaling on-land connectivity experiences, Starlink greatly advances Carnival Corporation's focus on providing the best available Wi-Fi experience for its guests to stay connected while on vacation, including sharing photos and videos, streaming movies and live sporting events, and enjoying other content onboard with a reliable connection at even faster speeds.

### **Thailand Acquires Search and Rescue Solution Based on Thales Alenia Space's Advanced Technology**

January 17, 2023 – Thales Alenia Space has signed a contract with prime contractor Appworks to provide Thailand with a complete Search And Rescue (SAR) operational system based on the COSPAS-SARSAT MEOSAR Service. The solution will make it possible to detect and locate distress signals from COSPAS-SARSAT beacons on land, in the air and at sea instantaneously, over a radius of 2,500 km centered around Bangkok, mainly using the Galileo satellite positioning system. This solution also includes delivery of a Mission Control Centre (MCC) dedicated to managing and distributing alerts, and a Rescue Coordination Centre (RCC) to manage all search-and-rescue activities for armed forces, coastguards, sea rescue and other services.

### **GAPSAT Acquires QBX Ltd to Provide Critical Spectrum Solutions for Satellite Connectivity**

January 16, 2023 – GapSat Development Group Limited has acquired QBX Limited, an Isle of Man based satellite solutions and consulting services company with a portfolio of satellite radio frequency spectrum and intellectual property. Satellite spectrum and associated geostationary orbit slots are a finite resource and increasingly regarded as key strategic assets for the telecom and data communications industry, in the same way as patents are for emerging high technology industries. And with wireless and mobile broadband playing an essential role in bringing high-speed, low-cost

communications to the developing and developed world, the demand for mission-critical orbit spectrum resources is increasing and a so-called 'race for space' is emerging. The assets comprise a patent for radically new techniques to improve in-flight safety and communications for geostationary aero-mobility services and a suite of three ITU geostationary satellite slot filings using conveniently placed orbital locations to provide for full global coverage/service from the resulting geostationary constellation, using the Ka, Q/V and E/W bands for long-term spectrum future-proofing. With a strong background in developing existing in-orbit satellites for sale or lease and the addition of this new portfolio of radio frequency spectrum and intellectual property, GapSat is currently seeking potential partners that could be existing satellite fleet operators, aero systems integrators, aero instrumentation manufacturers or financial investors, to develop the assets for data services in the marine and aero mobility sectors.

### **du and SES Demo First Satellite-enabled 5G Mobile Backhaul Network in the Middle East**

January 16, 2023 – SES and du from Emirates Integrated Telecommunications Company (EITC), a leading telecom operator in the United Arab Emirates, have successfully demonstrated the first satellite-enabled 5G backhaul in the Middle East utilising SES's Medium Earth Orbit (MEO) satellites, the two companies announced today. The aim of the live demonstration was to demonstrate how SES's current O3b constellation could extend 5G coverage to remote locations and support du's enterprise customers including offshore energy sites with highly reliable, high throughput and low latency network connectivity. The live Proof of Concept (POC) saw numerous tests conducted over an SES's O3b satellite, including voice and data scenarios to measure quality of service performance and stress test load capacity. The low latency and high throughput 5G backhaul link showed O3b is an ideal solution for 5G satellite-enabled networks with Quality of Experience (QoE) at par with terrestrial backhauling technologies. SES has already started deploying O3b mPOWER technology which will enable high-performance services with superior throughput, predictable low latency, and unmatched flexibility to meet traffic demand. The start of service for O3b mPOWER expected in 2023 will enable du and its customers to experience secure, carrier-grade performance supporting business-critical, cloud-based applications over the public internet or via a dedicated, private connection.

### **SES Secures €300M Financing from European Investment Bank**

January 11, 2023 – The European Investment Bank (EIB), the financing institution of the European Union, and leading global content connectivity solutions provider SES announced details of their €300 million financing agreement. The seven-year term loan will back investments related to the design, procurement and launch of three previously announced satellites that will deliver advanced broadcast and broadband services spanning Western Europe, Africa and the Middle East. The loan is the largest amount ever provided by the EIB to a Luxembourg-based company. The project supported via EIB financing includes the procurement of three satellites from Thales Alenia Space to deliver video broadcasting as well as network services. Operating from SES's prime TV neighbourhood of 19.2 degrees East (ASTRA 1P, ASTRA 1Q) and 57 degrees East (SES-26) will enable SES to strengthen its world-class satellite broadcast over Europe and Africa, and support dynamic connectivity needs for companies and governments from the heart of Europe across Africa and the Middle East. Two of the three satellites are next-generation, flexible and fully software-defined satellites that will enable service reconfiguration and instant in-orbit adjustment to SES customers' demands. All three satellites, when launched in 2024, will be operated from SES's headquarters in Luxembourg.

### **Emirates to Offer Passengers High-speed Inflight Broadband Powered by Inmarsat's GX Aviation on 50 New Airbus A350 Aircraft**

January 11, 2023 – Emirates has selected Inmarsat as the inflight connectivity provider for its incoming fleet of Airbus A350s, as part of a commitment by the United Arab Emirates airline to ensure passengers 'fly better'. The milestone agreement marks an expansion of the long-standing

partnership between Emirates and Inmarsat. It will enable the airline to provide advanced, high-speed inflight broadband using Inmarsat's award-winning GX Aviation solution onboard 50 Airbus A350s, which enter service from 2024. As a result, passengers will be able to stay connected with family and friends, browse the internet, and enjoy social media, all from the comfort of their seat. The Airbus A350s will be the first Emirates aircraft to take advantage of Inmarsat's Global Xpress (GX) satellite network, which powers the world's first and only globally available high-speed broadband network, ensuring passengers can enjoy uninterrupted global connectivity, no matter their destination. The GX network currently consists of five Ka-band satellites and will be further enhanced with the addition of seven more satellite payloads as part of Inmarsat's fully funded technology roadmap. This includes two Inmarsat-6s, the most sophisticated commercial communications satellites ever built, both of which are scheduled to enter service this year.

### **Fleet Space Announces First Exosphere Deployment in Africa**

January 11, 2023 – Fleet Space is delighted to announce the first deployment of its ExoSphere satellite-based mineral exploration system in Africa, in a new partnership with Resonance Frequency Exploration Group (RFE), based in the USA with operations in Accra, Ghana. Under a licensing and technology cooperation agreement finalised in December 2022, Fleet Space will supply its Geode portable sensors, which use Ambient Noise Tomography (ANT) to collect subsurface data. This data is then beamed to the ExoSphere constellation of low earth orbit (LEO) satellites and then relayed to computers that use intelligent data processing to generate detailed 3D subsurface maps. Unlike traditional prospecting methods, which can take months or years to complete, the whole process takes only days or weeks. ExoSphere brings a powerful new dimension to the ongoing Mineral Resource Estimate projects RFE is conducting, in particular in the Oti Region of Ghana. Under the auspices of the Ghana Geological Survey Authority (GGSA), with implementation by RFE's team, ExoSphere will complement RFE's own XPLR remote-sensing mapping-analysis technology. This is achieved by cross-referencing the data from both sources, thereby significantly increasing the likelihood of finding new mineral deposits more quickly and with much greater accuracy.

### **Airbus and VDL Group Join Forces to Produce an Airborne Laser Communication Terminal**

January 10, 2023 – Airbus and VDL Group have signed a partnership agreement for the development and manufacturing of a laser communication terminal for aircraft, known as UltraAir. Based on the development led by Airbus and the Netherlands Organisation for Applied Scientific Research (TNO), the two companies will now prepare a demonstration of a prototype and a first flight test in 2024. As of 2024, Airbus and VDL Group – a Dutch high-tech industrial supplier – will further industrialise the prototype in order to make it ready for integration with a hosting aircraft. VDL brings design for production to the partnership and will manufacture critical systems. A flight test of this industrialised prototype is planned in 2025 on an aircraft. UltraAir will enable the exchange of large amounts of data using laser beams in a network of ground stations and satellites in geostationary orbit at 36,000 km above the Earth. With unparalleled technology including a highly stable and precise optical mechatronic system, this laser terminal will pave the way for data transmission rates that could reach several gigabits-per-second while providing anti-jamming and low probability of interception.

### **Intellian Expand Their Ku/Ka-band, Multi-orbit XEO Series**

January 10, 2023 – Intellian today announces the expansion of its XEO Series, a Ku/Ka electronically switching dual-band multi-orbit VSAT antennas, with the addition of the X100D and X150D. The XEO Series has seen great traction with the X130D and X130D PM across commercial and military markets since they were first unveiled in March 2022 at the Satellite Show, leading to Intellian's design of the X100D, available later this month, and the X150D, launching in early Q3 2023. The XEO Series are the world's first commercially available Ka/Ku-band through a single feed, electronically switchable, multi-orbit antennas, making them ideal for customers requiring high-bandwidth, availability and maximum agility. Designed for government, cruise, expedition vessels, superyachts, energy and shipping, XEO antennas are based on Intellian's proven design with multi-orbit LEO, MEO, GEO and

HEO tracking capabilities, including HTS Ka-band GEO. They can operate on any commercial Ku-band and Ka-band service, electronically switching through a single feed, and utilize Intellian's proprietary 2.5GHz wide Ka-band transceiver. These engineering innovations will enable access to the highest bandwidth packages worldwide and their interoperability, ensures access to the most comprehensive global networks.

### **Campbell Shipping Renews Fleet Xpress Contract, Adds Fleet Care and Fleet Secure Endpoint**

January 10, 2023 – Bahamas-based ship-management group Campbell Shipping has extended its relationship with Inmarsat, a world leader in global, mobile satellite communications, with an agreement that adds Fleet Care and Fleet Secure Endpoint to its existing 12-vessel Fleet Xpress solution. Campbell Shipping will now be able to carry out remote maintenance, support and repairs, and comprehensive network protection, on top of fast, reliable and extensive global coverage already provided by Fleet Xpress. These industry-leading performance characteristics were key to Campbell's decision to migrate its fleet of dry-bulk carriers to Fleet Xpress from Fleet Broadband in 2018. With vessels often sailing in areas of the Southern Hemisphere, the Fleet Xpress combination of highspeed Ka-band plus continuous L-band back-up delivers the bandwidth and stability to keep business operations online 24/7 and allows crew to remain in contact with friends and family on shore.

### **CAAC Validation for Viasat's Ka-Band In-flight Connectivity Integration Issued for Boeing 737 Series Aircraft**

January 10, 2023 – Viasat Inc. has been awarded a Civil Aviation Administration of China (CAAC) Validation of Supplemental Type Certificate (VSTC) to install its advanced Ka-band satellite connectivity system on the Boeing 737 aircraft series. Following the validation of the A320 series in April 2022, this latest approval for the 737-NG series further strengthens the foundation for Chinese airlines to install and deploy Viasat's industry-leading In-Flight Connectivity (IFC) system, including antenna, radome, modem, server and WAPs. The Boeing 737 series VSTC joins a portfolio of Viasat certifications that have been applied globally to install Viasat's IFC system on nearly 2,000 commercial aircraft. In total, Viasat currently serves 18 airline customers, averaging over 200,000 flights per month around the world. In cooperation with China Satellite Communications, Co. Ltd. (China Satcom), Viasat's IFC system connects with the Ka-band ChinaSat-16 satellite system to enable video streaming, browsing, messaging, social media scrolling and more to every connected device on Viasat-equipped aircraft operating over China. Viasat's IFC system can also connect to its global network outside of China.

### **AXESS Networks and Es'hailSat Join Forces in Qatar**

January 9, 2023 – AXESS Networks and Es'hailSat announced the Strategic Partnership Agreement to provide Teleport and VSAT services for multiple sectors in the Middle East and North Africa (MENA) region. To grow its operations in Qatar and in the Gulf & MENA region, AXESS has entered a strategic partnership agreement with Es'hailSat. The common goal of both partners is to expand their business, widen their customer base and upgrade the service quality. This multi-year, multi-service agreement will have Es'hailSat catering to AXESS' VSAT networking requirements along with professional and high-quality services. The partnership is indeed a win-win situation: while AXESS will provide satellite communications services and acquire new business in Qatar and in the region, Es'hailSat will contribute with local services needed for the extension of AXESS' operations. Es'hailSat will furthermore benefit from AXESS infrastructure and services to expand its own reach beyond the region and in particular the Maritime sector.

### **IEC Telecom Becomes an Official Starlink Reseller**

January 9, 2023 – Leading international satellite service operator IEC Telecom has kickstarted 2023 by introducing an innovative suite of services and solutions powered by Starlink. The new service portfolio has been designed to address specific communication requirements of a range of satcom

users, from home office workers to international enterprises and maritime businesses. This announcement follows the signing of the reseller agreement between Starlink and IEC Telecom, which took place in December 2022. Easy-to-deploy new land solutions by Starlink are designed to offer maximum flexibility for mobile units and fixed deployments. Through OneGate by IEC Telecom, HQ remains in control of its remote units, enabled by an advanced network management toolkit. Customised solutions have been developed for humanitarian missions, energy/mining/utility enterprises, transportation companies and more. The new maritime solutions offer the same advantages plus a range of IEC Telecom services specific to offshore use. Compact and easy to set up, the Starlink kits, are suitable for all vessel types, including yachting, commercial shipping, ferries, and cruise ships.

### **European Space Agency Joins Forces with Euroconsult to Support Budding Space Entrepreneurs**

January 9, 2023 – The European Space Agency has signed a letter of intent on behalf of its network of business incubation centres to boost its offering for space start-ups with high growth potential, through the provision of market analysis and networking opportunities. Leading global strategy consulting and market intelligence firm Euroconsult, who specialise in the space sector and satellite-enabled verticals, has signed this letter of intent to supply dedicated insight and connection opportunities that aim to enhance knowledge and access to business opportunities for the incubated companies. ESA Business Incubation Centres (ESA BICs), an initiative launched in 2003 by the European Space Agency's Technology Transfer Programme Office, have grown to become the largest network of space incubators in Europe. More than 25 Centres have been established to date in some 80 locations across all the ESA Member States, each hosting a selection of young, local companies working within the space sector value chain. Incubated companies can remain on the programme for up to two years before graduating and benefit from funding, coaching, technical advice and a global network of industry and research contacts, with more than 1200 companies making up the prestigious list of alumni/ incubated companies to date.

### **Iridium and Qualcomm Collaborate to Support Satellite Messaging in Smartphones**

January 5, 2023 – Iridium Communications Inc. has entered into an agreement with Qualcomm Technologies, Inc. to enable satellite messaging and emergency services in smartphones powered by Snapdragon® Mobile Platforms. Qualcomm Technologies' new Snapdragon® Satellite solution is supported by the fully operational Iridium® satellite constellation. Emergency messaging using Snapdragon Satellite is expected to debut starting in the second half of 2023 in premium Android smartphones launched in select regions. As opposed to selecting a single smartphone manufacturer, Iridium's collaboration with Qualcomm Technologies is aimed to support satellite services into a variety of smartphone brands and has the potential to expand to other consumer devices in the future.

### **Hughes Launches New Managed Cybersecurity Services for Small to Mid-sized Enterprise Networks**

January 5, 2023 – Hughes Network Systems, LLC, has expanded its suite of managed cybersecurity services for distributed enterprises to include managed detection and response (MDR) and SOC as a service (SOCaaS). The new offerings bring network security expertise from Hughes, plus the benefits of in-house, enterprise-grade protections, to small and mid-sized enterprises, tailored and scaled to address their needs. Where large enterprises have in-house experts and even their own Security Operations Centers (SOCs) to help mitigate cyber threats, smaller businesses (those with up to 1,000 employees) can now access the same capabilities from Hughes. With the addition of MDR and SOCaaS, Hughes now offers a robust suite of managed security services to help prevent, detect, and respond to threats targeting the smaller enterprise.

### **Keysight, Qualcomm Accelerate 5G Non-Terrestrial Network Communication to Support Broadband in Remote Areas**

January 4, 2023 – Keysight Technologies, Inc. has collaborated with Qualcomm Technologies, Inc. to

establish an end-to-end 5G non-terrestrial network (NTN) connection. Based on this successful demonstration of call signaling and data transfer using orbit trajectory emulation, Keysight and Qualcomm Technologies aim to accelerate 5G NTN technology to provide affordable broadband connectivity in remote areas. NTNs based on 5G satellite-to-ground communication bring secure, reliable, and high bandwidth connectivity to remote areas that do not have terrestrial network coverage. Widespread 5G NTN deployments can provide critical health, safety, and financial benefits to rural populations while improving economic conditions for industrial sectors such as agriculture, energy, health, and transportation. The end-to-end 5G NTN connection, based on modelling constellations of Low Earth Orbit (LEO) satellites, was made in Qualcomm Technologies' San Diego laboratory by combining Keysight's 5G base station and aerospace emulation solutions with a Qualcomm Technologies 5G mobile test platform (MTP). The Qualcomm Technologies MTP is a smartphone reference design that acts as a proven test device for implementing and verifying the most advanced features available from Qualcomm Technologies research labs. The collaboration enables device makers to speed development and verification of 3GPP Release 17 compliant designs.

### **INTEGRASYS Unveils New Corporate Identity and Logo as Part of the Next Generation Strategy**

January 3, 2023 – As part of the continued development of the company's identity, INTEGRASYS is pleased to announce the introduction of the new company logo and rebranding. Over the 33 years since its inception, the company has evolved from being a turnkey project company to a software systems leader within the satellite industry. INTEGRASYS' product portfolio ranges from Satellite Network Design tools to Electronic Warfare & Cybersecurity software. Therefore, due to the company's evolution, adaptation to the new ecosystems, and expansion into a global presence with nine offices around the world; it was time for the image to be aligned with these disruptive changes. The logo has been updated to better represent the company as it is today, as well as its bright and dynamic future.

### **Viasat Completes Sale of Link 16 Tactical Data Links Business to L3Harris**

January 3, 2023 - Viasat Inc. completed the sale of its Link 16 Tactical Data Links (TDL) business to L3Harris Technologies for approximately \$1.96 billion in cash. The net proceeds to Viasat are expected to be approximately \$1.8 billion after estimated taxes, fees and other expenses. Viasat intends to use the proceeds to reduce net leverage and increase liquidity. The Link 16 TDL business had approximately \$400 million of revenue and an estimated \$125 million of Adjusted EBITDA for the 12 months ended June 30, 2022, when burdened by the estimated amount of allocable overhead and corporate expenses expected approximately one year after closing.

## **BROADCAST**

### **HIGH VIEW Launches Four New Channels on SES's ASTRA 19.2 Degrees East**

January 26, 2023 – German music fans will be able to enjoy a new selection of music TV channels as HIGH VIEW, an independent Munich-based media company, and SES has expanded their long-term partnership. Under the new multi-year agreement, HIGH VIEW will be leasing additional satellite capacity on SES's prime TV neighborhood at ASTRA 19.2 degrees East to broadcast four free-to-air SD channels. Starting 1 February, HIGH VIEW will further grow their established DELUXE MUSIC brand and broadcast DELUXE DANCE by Kontor, DELUXE FLASHBACK, DELUXE ROCK, and DELUXE RAP.

### **DIRECTV to Add Conservative-Appeal Commentary Channel the First to Directv, Directv Stream, and U-Verse**

January 26, 2023 – DIRECTV will launch conservative opinion and commentary network The First across all three of its video services, DIRECTV, DIRECTV STREAM, and U-verse very soon. The new high-definition service will join the DIRECTV satellite lineup on channel 349 and U-verse on channel 1220. The First will also soon be available via DIRECTV TV Everywhere websites and applications. As a part of this new multi-year commitment, The First will remain a free channel available to DIRECTV,



DIRECTV STREAM, and U-verse customers without any extra fees, as well as online at TheFirstTV.com/watch and through various streaming providers. Until now, The First had been distributed exclusively via streaming, and DIRECTV's launch marks another step forward in an ongoing DIRECTV strategy to integrate leading streaming content alongside its more traditional linear channels. This allows DIRECTV to aggregate customers' exponentially expanding entertainment and information options seamlessly into one destination, while often adding major discounts on the most popular, stand-alone subscription streaming options.

#### **SkyFi Partners with Sen to Distribute UHD Video**

January 18, 2023 – In conjunction with its much-anticipated platform launch, SkyFi, the satellite and aerial imaging company democratizing access to earth observation (EO), has partnered with Sen Corporation to make its ultra-high-definition satellite video available to the masses. Sen, which shares SkyFi's mission to bring low-cost and transparent EO image availability, launched the first satellite, ETV-A1, into low-earth orbit on January 13, 2022, with plans to launch two more satellites by 2024, and several more shortly thereafter as part of their full constellation. The agreement allows SkyFi to distribute Sen's streaming live and recorded video from four cameras calibrated to a range of spatial resolutions, including 8K video from its highest resolution camera which is capable of delivering 1.5-meter pixel size. It is a fitting prelude to SkyFi's official business opening. Beginning January 17, the platform is available on Google and Apple mobile applications and, beginning January 18, through an interactive website. The beginning of commercial operations comes after two months of intensive beta testing to ensure a seamless user experience and frictionless purchasing process.

#### **Arabsat and France Médias Monde Extend Their Partnership for Satellite Distribution across MENA & Europe**

Arabsat and FMM group have strengthened their strategic relationship with the renewal of the satellite distribution contract for broadcasting France 24 TV SD TV channels and Radios (RFI Radio and MC Doualiya) owned by the group, on Arabsat Badr-4 satellite, the only satellite that reaches MENA region & Europe under one coverage. The renewal also included the F24 HD Channels (F24 Arabic, English & French) who are exclusive on Arabsat. Mr. Alhamedi M. Alanezi, Arabsat President & CEO, expressed his happiness to tighten the bonds with FMM group during his visit on September 16th to the Group premises in Paris, "We are pleased with this visit to strengthen and prolong our strategic partnership with FMM and continue to distribute their channels to all their Arab viewers across MENA & Europe, also to emphasize our keen endeavor to bring the best satellite channels to our video neighborhood".

#### **Broadcast Commerce Giant Benefits from Teleport Upgrade**

January 4, 2023 – Satellite communications used by video commerce giant QVC/HSN for their television shopping networks and ecommerce sites are benefiting from a teleport upgrade provided by PSSI Global Services. The new satellite ground links use ViaLite's high dynamic range L-Band HTS link pairs together with 3U chassis configurations and HRC-5 monitoring and control modules in Satcom6 outdoor enclosures. When QVC/HSN performed their initial satellite test after installation, they found that the ViaLite optical fiber links were 'perfect out of the box'. They also performed a peak and pol test using an SES3 transponder and received a perfect cross-pol isolation. PSSI Global Services has the largest fleet of transmission vehicles in North America and a variety of cutting-edge equipment available 24/7 for events around the world. They are a worldwide leader in live event management services and provide expertise and support for everything from 4K/UHD pay-per-view events to complex multichannel at-home productions. QVC and its sister retail brands reach more than 200 million homes worldwide via 14 television networks and connect to millions more via streaming services, social pages, mobile apps, websites, print catalogs and in-store destinations.

### **Thales Alenia Space Wins 4-Year Maintenance Contract for Europe's EGNOS Satellite Navigation System**

January 26, 2023 – Thales Alenia Space has signed a contract worth over €100 million with the European Union Agency for the Space Programme (EUSPA) to provide maintenance and other support services for EGNOS V2 (European Geostationary Navigation Overlay System) for a period of four years. The EGNOS system enhances the accuracy, reliability and integrity of positioning signals by improving the performance of Global Navigation Satellite Systems (GNSS), such as GPS and, in the future, Galileo. EGNOS's "Safety of Life" service is used in aviation for landings, enabling precision approaches at European airports without requiring ground guidance systems. This service has significantly improved operational safety and efficiency for the greater benefit of European operators. Thales Alenia Space will build on its long-standing expertise in the engineering, development, testing and maintenance of the current EGNOS system, along with its development of EGNOS V2, now underway, to provide maintenance of the EGNOS V2 system for EUSPA and the European Union satellite navigation community from 2023 to 2026.

### **In-Space Missions Announces Asia-Pacific Rideshare Mission**

January 25, 2023 – In-Space Missions Ltd is partnering with Singapore Space Technologies Ltd (SSTL) to initiate Faraday Dragon, an Asia-Pacific regional satellite rideshare mission targeted for launch in 2025. Faraday Dragon will fly multiple payloads for regional space players including government, commercial, financial, research and educational organisations. In-Space Missions, which is owned by BAE Systems, is collaborating with SSTL on a service-orientated model which aims to support and develop satellite assembly and payload integration capabilities in Singapore and the Asia-Pacific region. Faraday Dragon will be presented at a workshop facilitated by SSTL at the Global Space and Technology Convention (GSTC) being held in Singapore in February. The workshop will bring together key stakeholders and industry to define a future in-orbit demonstration capability. Core technologies and processes for a variety of applications will be discussed at the workshop including optical payloads (both visible and infra-red), RF sensing, radar, processors, machine learning and artificial intelligence, communications, propulsion, formation flying, metrology and timing.

### **ESA and the European Commission Uniting on Earth Observation for the Philippines**

January 24, 2023 – ESA and the European Commission have signed a contribution agreement to build a Copernicus mirror site in the Philippines – the first of its kind in Southeast Asia. The new CopPhil initiative will enhance the response capability and resilience of the Philippines to natural and human made disasters through the strategic use of space data. This will help reduce vulnerability of the nation to climate hazards, support climate adaptation, food security and environmental protection. With €7.3 million provided in funding for the CopPhil initiative in the Philippines, ESA and the EU, along with national stakeholders, will support the uptake of the Copernicus Programme – the most ambitious Earth observation programme to date. The CopPhil initiative is part of the new Global Gateway strategy of the EU encouraging the advanced utilisation of Copernicus data and information services, which in turn, will support better policy definition, improved planning, increased transparency, commitment and accountability.

### **Rocket Lab Successfully Launches First Electron Mission from U.S. Soil**

January 24, 2023 – Rocket Lab USA, Inc. successfully launched its 33rd Electron rocket and first mission from Virginia. The "Virginia is for Launch Lovers" mission lifted off at 18:00 EST on January 24th from Rocket Lab Launch Complex 2 (LC-2) at Virginia Space's Mid-Atlantic Regional Spaceport within NASA's Wallops Flight Facility. The mission deployed three satellites to a 550km orbit for leading radio frequency geospatial analytics provider HawkEye 360. Rocket Lab has now successfully deployed a total of 155 satellites to orbit from the Company's three launch pads across the U.S. and New Zealand. The successful launch from LC-2 marks the beginning of a new era of responsive launch

capability for small satellites from U.S. soil. Built with support from Virginia Space, the Commonwealth of Virginia and NASA Wallops Flight Facility, Rocket Lab Launch Complex 2 is designed to serve the responsive space needs of commercial, civil, defense, and national security customers, supporting up to 12 missions per year. Combined with Rocket Lab's private Launch Complex 1 site in New Zealand, the Company's launch sites can support more than 130 launch opportunities every year, delivering flexibility and rapid launch capability for customers.

### **Thales Alenia Space and Partners Sign Contract with ESA for TeQuantS Quantum Satellite Communications Project**

January 23, 2023 – Thales Alenia Space has signed a contract with the European Space Agency (ESA) to lead the TeQuantS 1 project aimed at developing quantum space-to-Earth communications technologies. This contract, part of ESA's ARTES 4.0 Core Competitiveness programme element 2, is supported by French space agency CNES (Centre National d'Etudes Spatiales) and Austrian space agency ALR. The TeQuantS project intends to develop quantum technologies for cybersecurity applications and future quantum information networks. These technologies will enable Thales Alenia Space and its partners to build satellites and optical ground stations by the end of 2026. TeQuantS will thus help to demonstrate the performance of long-distance quantum satellite links.

### **Eutelsat Successfully Decommissions EUTELSAT 5 West A Satellite**

January 19, 2023 – Initially designed for a 15-year lifetime, the EUTELSAT 5 West A satellite has retired after an impressive 20+ years of fruitful in-orbit operation. The satellite was successfully re-orbited as planned to more than 400km above the geostationary arc, the propulsion system depressurised and the electrical equipment on board passivated. A progressive transfer of services to the new EUTELSAT 5 West B satellite, as well as other satellites of the Eutelsat fleet, was started in January 2020, ensuring seamless continuity of operations for customers. The EUTELSAT 5 West A continued to operate until its decommissioning, notably providing maritime connectivity. A disruptive satellite for the Group, EUTELSAT 5 West A enabled the transition to digital television, notably in France in the early 2000s, when analogue television technology was converted to and replaced by digital broadcasting.

### **Sixth GPS III Satellite Built by Lockheed Martin Launches as Part of Constellation Modernization**

January 18, 2023 – The sixth Global Positioning System III (GPS III) satellite designed and built by Lockheed Martin has been launched and is propelling to its operational orbit approximately 12,550 miles above Earth, where it will contribute to the ongoing modernization of the U.S. Space Force's GPS constellation. GPS III Space Vehicle 06 (GPS III SV06) launched from Cape Canaveral Space Force Station, Florida, aboard a SpaceX Falcon 9 rocket at 7:24 a.m. EST today. About 83 minutes after liftoff, U.S. Space Force and Lockheed Martin engineers at the company's Denver Launch & Checkout Operations Center confirmed signal acquisition of GPS III SV06 and now have the space vehicle "flying" under their control. GPS III SV06 is the 25th Military-Code satellite introduced to the constellation. The satellite will provide advanced technology to aid Space Force operators in their mission by providing positioning, navigation and timing (PNT) data to military and civil users worldwide.

### **APSTAR-6E Successfully Launched**

January 13, 2023 – APSTAR-6E satellite was launched at the Xichang Satellite Launch Center. APSTAR-6E satellite is a geostationary orbit satellite based on the DFH-3E satellite platform. It is purchased and owned by APSTAR Alliance Satcom Limited, an associate of APT Satellite. APT Satellite provides operation and technical support to the APSTAR-6E programme. APSTAR-6E will provide cost-effective high-throughput broadband satellite telecommunication services in the Asia-Pacific region. As the first bird of the DFH-3E series, APSTAR-6E satellite is also the first all-electric propulsion GEO telecommunication satellite. The satellite adopts a number of advanced technologies including the full automation ability to lift to the geostationary orbit and long-term automatic station-keeping in

the orbital slot. It also has the outstanding performance in high load and low cost. The launch of APSTAR-6E marks a significant milestone of APT Satellite's satellite programs, it further poises APT Satellite as a leading satellite company in the Asia-Pacific region.

### **Momentum to Deliver FOSSA Systems Next-Generation Satellites to Orbit**

January 12, 2023 – Momentus Inc. has signed a contract with FOSSA Systems ("FOSSA"), a Spanish company that offers global low-power Internet of Things (IoT) connectivity and in-space services through its satellite constellation, to place its latest generation of satellites, FOSSASat FERROX, into low-Earth orbit on two Vigoride Orbital Service Vehicle missions starting in 2023. The first group of FOSSA's next-generation satellites is slated to launch on a Vigoride Orbital Service Vehicle on the SpaceX Transporter-8 mission no earlier than June 2023. This mission will demonstrate the satellites' new design features and act as a demonstration for a second batch of satellites expected to launch onboard a follow-on Vigoride vehicle on a later SpaceX Transporter mission, kicking off the deployment of a new constellation of FOSSA satellites.

### **Australia's Largest Ever Satellite Constellation Now Active**

January 12, 2023 – Skykraft's Block II satellites successfully reached low Earth orbit after their 3 January launch by SpaceX from Cape Canaveral. The satellites were launched as a single payload, with four mission satellites carried by an orbital transfer vehicle. Following successful initial testing of the single payload by Skykraft, the four mission satellites were separated from the orbital transfer vehicle to become five single satellites. Over the past 7 days, Skykraft has performed critical operations including testing communication through its UHF command channel to communicate regularly with all satellites, ensuring a functioning power system with batteries being recharged by the solar panels, and operations of the mission computer. Skykraft's global Air Traffic Management (ATM) service is set to be commercialised over the next 2 years, and will address gaps in surveillance and communications for aircraft travelling over remote and oceanic areas.

### **Axelspace Signs Partnership with NorthStar Earth & Space**

January 11, 2023 – Axelspace announced an agreement with NorthStar Earth & Space Inc. ("NorthStar"). NorthStar is a Canada-based company and the first commercial enterprise to offer complete SSA (Space Situational Awareness) services to monitor all near-Earth orbits from space to use space-based sensors. Through this partnership, Axelspace will utilize five AxelGlobe Earth observation satellites, GRUS, to provide complementary satellite imaging data for NorthStar's space situational awareness (SSA) efforts.

### **OneWeb Confirms Successful Deployment of 40 Satellites Launched with SpaceX**

January 10, 2023 – OneWeb confirmed the successful deployment of 40 satellites launched by SpaceX from Cape Canaveral Space Force Station. This launch is OneWeb's 16th to-date, with only two more launches remaining to complete its first-generation constellation enabling global connectivity in 2023. With 542 satellites now in orbit, OneWeb has more than 80% of its first-generation constellation launched. With this launch, OneWeb kicks-off its 'Countdown to Global Connectivity' campaign marking the final launches remaining to complete its first-generation LEO satellite constellation that will offer high-speed, low-latency connectivity solutions. OneWeb has connectivity solutions active today with its distribution partners in Alaska, Canada, the UK, Greenland and wider Arctic area, with expanded services coming online soon across the U.S, southern Europe, Australia, Middle East and more. With each new area covered, OneWeb and its partners can provide internet connectivity to a greater number of unserved and underserved rural and remote communities and businesses.

### **Lynk Launches World's 2nd and 3rd Commercial Cell-Towers-in-Space**

January 10, 2023 – Lynk Global, Inc. announced the successful launch and deployment of two more satellites in the company's commercial cell-towers-in-space constellation. These satellites are covered by the world's first and only commercial satellite-direct-to-standard-phone license that Lynk received

from the FCC in September 2022. A unique capability that Lynk demonstrated during this launch is a new deployer system that supports the launch of multiple satellites at one time on the same ESPA-ring port, which enables the affordable launch of many more satellites. Lynk has signed commercial agreements with 25 MNOs covering 41 countries. Lynk partners with MNOs to improve the lives of communities around the globe by bridging the digital divide, enabling access to emergency aid and services, and providing affordable access for billions. Lynk is actively testing satellite-to-standard-phone connections in 17 countries on all seven continents. Today, only 10% of the world's surface is covered by terrestrial mobile connectivity. This means that 90% of the planet is in "coverage black spots," otherwise known as "OG". Over three billion people per year with a mobile phone experience extended periods of disconnectivity. Another billion people per year will buy their first phone when there is affordable mobile coverage where they live and work. OG is a problem for four billion people.

### **Spaceflight and Maritime Launch Agree to Future Sherpa OTV Missions**

January 10, 2023 – Spaceflight Inc., a premier launch and in-space transportation services provider, announced today it signed an agreement with Maritime Launch Services Inc. to launch up to five of its Sherpa™ Orbital Transfer Vehicles (OTVs). The launches will be from Spaceport Nova Scotia aboard the Cyclone-4M beginning in 2025. Spaceflight has successfully delivered more than 550 spacecraft across 55 launches, including both rideshare and dedicated launches, on a wide variety of launch vehicles. This includes launching five Sherpa OTVs which carried more than 50 payloads to space. Maritime Launch is developing North America's first commercial spaceport, Spaceport Nova Scotia, near Canso, Nova Scotia. The company will launch the Cyclone-4M, a medium class launch vehicle with a payload capability of five tons to low Earth orbit. Satellite companies can rely on the vehicle components' flight heritage, demonstrated by several operators globally, boasting approximately 878 successful launches.

### **Airbus to Provide Poland with a Very High Resolution Optical Satellite System**

January 4, 2023 – Airbus Defence and Space has signed a contract with Poland to provide a geospatial intelligence system including the development, manufacture, launch and delivery in orbit of two high-performance optical Earth observation satellites. The contract also covers the associated ground segment, including Direct Receiving Station in Poland, launch services, training for the Polish team, maintenance and technical support for the space and ground systems. Furthermore, the agreement encompasses the delivery of Very High Resolution (VHR) imagery from the Airbus Pléiades Neo constellation as early as 2023. This contract is the first export success, achieved with the support of the French government, for the Airbus S950 VHR optical satellite which stems from the development of the Pléiades Neo constellation, already operating in orbit with two satellites since 2021. This latest generation system offers a cutting-edge performance of VHR optical capabilities accompanied by a very high agility in orbit.

### **Satellogic Announces Successful Expansion of Aleph-1 Constellation**

January 4, 2023 – Satellogic Inc., a leader in sub-meter resolution Earth Observation ("EO") data collection, today announced the successful deployment of four satellites, launched with SpaceX at Cape Canaveral Space Force Station. Each of the spacecraft have made contact with Satellogic's ground station network and confirmed good health across all subsystems. The SpaceX Transporter-6 mission was completed Tuesday with a two-stage rocket delivering these four satellites to a sun-synchronous low-Earth orbit. This deployment includes the "Albania-1" and "Albania-2" satellites, that will support the Republic of Albania pursuant to a recent 3-year constellation-as-a-service agreement entered into with Satellogic. The dedicated satellites will enable Albania to task and monitor its sovereign territory for a range of applications including agriculture management, border security, and environmental monitoring.

### **Successful Launch of the 8th Satellite of Unseenlabs' Constellation**

January 4, 2023 – Unseenlabs successfully launched its eighth satellite dedicated to the geolocation

of vessels at sea from space. BRO-8 was launched with Exolaunch as part of SpaceX's Transporter-6 Mission from Cape Canaveral, Florida. Communication with the satellite was successfully established a few hours after launch. In total, Unseenlabs has now deployed eight satellites since 2019. The Unseenlabs constellation is designed to provide customers with reliable and frequent radio frequency data for rapid detection and monitoring of activities at sea, regardless of the time of day, or weather conditions. This capacity is ideally suited for applications such as national security, insurance and marine area protection. To date, Unseenlabs has built and launched the largest fleet of independent satellites dedicated to the detection of radio frequency signals. The technology created by the company helps its customers to gain the most up-to-date analysis on maritime traffic for their area of interest. In 2023, the French SME plans to expand the team based at its headquarters in Rennes, France. Also, the company plans to increase the number of spacecrafts to reach a constellation of 20 to 25 independent satellites, dedicated to the geolocation of vessel at sea from space.

### **Momentum Launches Vigoride Orbital Service Vehicle on SpaceX Transporter-6 Mission**

January 3, 2023 – Momentum Inc. launched its second demonstration flight of the Vigoride Orbital Service Vehicle (OSV) to low-Earth orbit aboard the SpaceX Transporter-6 mission today. Momentum established contact with its Vigoride vehicle on its first orbital pass and confirmed that both solar arrays are deployed, and the vehicle is generating power and charging its batteries. The Vigoride OSV is designed to support a range of transportation and in-space infrastructure services. A key part of the Vigoride spacecraft is the Microwave Electrothermal Thruster (MET) that is designed to use water as a propellant. The MET is designed to produce thrust by expelling extremely hot gases through a rocket nozzle. Unlike a conventional chemical rocket engine, which creates thrust through a chemical reaction, the MET is designed to create a plasma and thrust using microwave energy. Using the MET, Momentum aims to offer cost-effective, efficient, safe, and environmentally friendly propulsion to meet the demands for in-space transportation and infrastructure services.

### **36 Planet SuperDoves Successfully Launch on SpaceX's Falcon 9 Rocket**

January 3, 2023 – Planet Labs PBC successfully launched 36 SuperDove satellites, its Flock 4y, to space aboard a SpaceX Falcon 9 rocket. The Planet team has established contact with all 36 SuperDoves and has kicked off their automated commissioning process. This marks the company's 32nd successful launch, totaling over 500 satellites launched since its founding. These satellites were lofted into orbit from Space Launch Complex 40 in Cape Canaveral, Florida on SpaceX's Transporter-6 mission, marking Planet's eighth flight with the launch provider. Once in orbit, contact with the 36 SuperDoves was established, holding the company's 100% successful contact rate with its satellites. These 36 SuperDoves will replenish Planet's current fleet of approximately 200 satellites in orbit, working to scan the Earth every day to make change visible, accessible, and actionable. This data is incorporated into the workflows of over 800 customers globally and thousands of users in agriculture, sustainability, government, and more, to help power better decision making. From measuring crop yields to fighting illegal deforestation to supporting land restoration efforts, global users are finding great value in Planet's monitoring capabilities. The company is excited to bring even more SuperDove satellites to orbit to further its mission of making daily change visible, accessible, and actionable.

### **NSLComm's BeetleSat LEO Satellite Successfully Launched via SpaceX Falcon 9 Rocket**

January 3, 2023 – BeetleSat, formerly known as NSLComm, announced the successful launch of its second nanosatellite from Cape Canaveral, Florida, onboard a SpaceX Falcon 9 rocket. Now in Sun-synchronous orbit (SSO) at 550Km altitude, the nanosatellite will provide BeetleSat's public sector customer with store and forward, very high throughput satellite communication services. Today's launch is another step forward in the Company's strategy to become one of the world's leading satellite service operators through the creation of a groundbreaking low-Earth orbit (LEO) constellation that will enable secure, low-latency, high-throughput, and cost-effective point-to-point communications from anywhere on earth. With a payload designed by BeetleSat, the fully-digital nanosatellite weighs approximately 9 kg and transmits data at up to 2 Gbps. Using innovative

Software Defined Radio (SDR) and a deployable antenna communication payload, it delivers a bit-rate performance level equal to a much larger satellite at a substantially lower capital expenditure. BeetleSat's LEO constellation will provide global and regional satellite operators, mobile network operators, and internet service providers high-quality global Ka-band connectivity for commercial and government applications, including point-to-point secure communications, mobility, and cellular backhaul/trunking services.

### **Open Cosmos and Exolaunch Announce New Launch Agreements for MENUT Earth Observation Satellite for SpaceX's Transporter-6 Rideshare Mission and Beyond**

January 3, 2023 – Open Cosmos, a leading space mission and data provider, has signed its first launch services agreement (LSA) with Exolaunch, a global provider of launch services and deployment solutions. Open Cosmos is launching its 6U MENUT Earth Observation (EO) nanosatellite aboard SpaceX's Transporter-6 rideshare mission, due to take place today (3 January 2023), with the launch planned and overseen by Exolaunch. The satellite was successfully integrated into the deployer and the Falcon 9 launch vehicle ahead of the launch at Cape Canaveral at 2.56pm today. MENUT is part of the OpenConstellation, a global shared satellite infrastructure built and managed by Open Cosmos. Countries, institutions and companies are able to contribute their own satellites and create the world's biggest mutualised constellation. Subsequent Open Cosmos-built small satellites, contributed by leading space organisations in the UK, Spain and Portugal for OpenConstellation, are already being built and will be launched throughout 2023 and 2024. The OpenConstellation is designed to foster cooperation and drive participation from companies, nonprofits and national and regional governments that may not possess the resources to establish and maintain Earth Observation constellations individually.

## **EXECUTIVE MOVES**

### **ETL Systems Strengthens Leadership Team with New CEO**

January 23, 2023 – ETL Systems has strengthened its senior management team by appointing Kevin Dunne as its new CEO and Joanna Gower as HR Director. Kevin brings with him over 20 years' experience in RF Systems within Satellite and Defence communications markets. Before joining ETL, he was Vice President and Managing Director of the Microwave, Microelectronics and Secure Communications Divisions of API Technologies Corporation. Prior to API Technologies, he worked at Cobham PLC for 11 years delivering innovative SATCOM and Aerospace Communication Systems. He held the roles of VP Programmes, VP Sales & Business Development and finally VP of the Antenna Systems Division.

### **Astroscale Japan Appoints Eddie Kato as President and Managing Director**

January 16, 2023 – Astroscale Japan Inc. ("Astroscale Japan"), a subsidiary of Astroscale Holdings Inc. ("Astroscale"), the market leader in satellite servicing and long-term orbital sustainability across all orbits, announces Eddie Kato as President and Managing Director, effective February 1, 2023. Eddie has more than 35 years of experience in the space industry and has worked extensively internationally. Most recently, he founded the consulting firm HISE, Inc. in Washington, D.C., in 2015. He led the company for seven years as founder and president, providing strategic advice and market development support for the space and telecommunications sectors. Prior to HISE, he spent seven years at Thales Alenia Space, where he managed the Asia region, headed the sales division in the French headquarters, and served as president of the North American subsidiary. He also worked for Orbital Sciences, Lockheed Martin, General Electric and Mitsubishi Electric in their space sectors. As President and Managing Director of Astroscale Japan, Eddie will work closely with the management teams of Astroscale Holdings Inc. and its U.S. and U.K. subsidiaries to drive the company's growth.

### **Arianespace Names Steven Rutgers as Chief Commercial Officer**

January 16, 2023 – Arianespace announces the appointment of Steven Rutgers as Chief Commercial Officer, effective January 16, 2023. He reports to Stéphane Israël, Chief Executive Officer of Arianespace, and joins the company’s Executive Committee. Steven Rutgers began his career in the space industry over two decades ago, working his way progressively through the ranks – initially as the international market and account manager with Inmarsat distributor Xantic in the Netherlands. He subsequently worked in Hong Kong, Dubai and Singapore with Stratos and Inmarsat, negotiating complex bids and supporting commercial development. His career has spanned the globe, from Europe to the Middle East, Asia and the Americas, where he has conducted business with multiple sectors – including satellite operators and the government, telecommunications, oil and gas, mining, logistics and fisheries industries. Prior to joining Arianespace, Rutgers was the Vice President of Sales with the IoT (Internet of Things) company Hiber, where he successfully executed deals with large customers served by the satellite industry. Rutgers holds a Bachelor’s degree from the International School of Economics and Management, Rotterdam.

### **ST Engineering iDirect Names Don Claussen as New CEO**

January 9, 2023 – ST Engineering iDirect has named Don Claussen as its new CEO, effective January 2, 2023. Claussen will lead the company in expanding its global leadership and technology vision against a backdrop of rapid satcom industry transformation. Based in the U.S., Claussen brings with him over 15 years of industry experience, and has transformed solutions development and delivery for global satcom companies. Claussen joins ST Engineering iDirect from Intelsat General Corporation where he served as Vice President responsible for Strategy, Business Development, Product Management and Service Delivery. During his time at Intelsat General Corporation, Claussen aligned the product development and service delivery teams to launch a multi-orbit capability, providing end users seamless access to GEO and LEO satcom services from a single user interface. Prior to joining Intelsat General Corporation, Claussen was Vice President and General Manager of a portfolio division at L3Harris focused on satcom products and solutions for the US and international markets. Claussen also served as a Business Unit Director at Viasat, with responsibilities for its broadband and narrowband satcom product lines.

### **Momentus Names Chris Kinman as CCO and Dennis Mahoney as Interim CFO**

January 4, 2023 – Momentus Inc., a US commercial space company that offers transportation and other in-space infrastructure services, today announced that Chris Kinman will join Momentus as Chief Commercial Officer effective January 9 and Dennis Mahoney will serve as Interim Chief Financial Officer effective January 7. Kinman brings more than 30 years of experience in business development, engineering, program management, capture management, and driving growth in the defense and civil government and commercial space sectors. Most recently, Kinman served as a Senior Business Development Executive for Northrop Grumman’s Space Sector.

## **REPORTS**

### **NSR’s In-Orbit Services: Satellite Servicing, ADR, and SSA, 6<sup>th</sup> Edition**

January 31, 2023 – In-Orbit Services: Satellite Servicing, ADR, and SSA, 6th Edition (IoSM6) is the industry resource for this emerging market opportunity. The report provides a comprehensive “State-of-the-Market” analysis for each In-orbit Service (IoS) application and service over a 10-year forecast period. NSR’s IoSM6 details Primary & Emerging Player movements within the core IoS applications, across both GEO and Non-GEO markets. The report evaluates global market revenue and addressable market demand by service, revenue, and customer type. Offering comprehensive assessment of IoS application developments, IoSM6 details trends, challenges, and opportunity enablers for this rapidly expanding market.

### **Euroconsult Report Addresses Challenges and Potential of Optical Communications for Nascent Space Applications Market**



January 17, 2023 – A new 1st-edition report from Euroconsult provides a full analysis of the exciting and rapidly developing global market for optical communications terminals driven by NGSO broadband constellations with the need for inter-satellite and Direct-to-Earth communications. According to Euroconsult’s report, major satellite constellation operators see the benefits of switching inter-satellite communication from mainly by radiofrequency electromagnetic waves to optical or laser communication, but there are key technological challenges to address before widespread adoption, including link reliability governed by beam accuracy. Euroconsult remarks that, over the three categories of applications for optical communications terminals, inter-satellite links (ISL) are largely dominant, driven by increasing adoption among NGSO broadband constellations. Optical inter-satellite links (OISL) terminals are expected to surpass 70,000 units in orbit by 2031.

### **NSR’s Industry Leading Optical Satellite Communications, 5th Edition (OSC5)**

January 11, 2023 - NSR’s industry leading *Optical Satellite Communications, 5th Edition (OSC5)* report provides the industry’s only detailed analyses of the evolving space-based laser communication ecosystem. Including market forecasts built upon years of research into the space infrastructure and applications markets, NSR’s Optical Satellite Communications, 5th Edition (OSC5) provides unparalleled market insight of key players and technologies shaping this industry, spanning the entire satellite optical communications value chain.

### **Value of Space Economy Reaches \$424 billion in 2022 Despite New Unforeseen Investment Concerns**

January 10, 2023 – Euroconsult has released the 9th edition of its trusted annual space market overview to cover the past 12 months and forecast the next 10 years for the industry, charting highs that contributed to the continued growth of many aspects of the commercial sector, together with the ongoing challenges of the world geopolitical and world economic environment. The fast growing commercial space sector enjoyed another year of significant growth and productivity during 2022, but did not escape unscathed from rising geopolitical tensions and operational challenges caused by inflation, high interest rates and the after-effects of previous years’ pandemic lockdowns on supply chains, according to Euroconsult.

## **UPCOMING EVENTS**

**Smallsat Symposium 2023**, February 7-9, Silicon Valley, CA, USA, <https://2023.smallsatshow.com/>

**Global Space & Technology Conference (GSTC) 2023**, February 15-16, Singapore, <https://www.space.org.sg/gstc>

With over 15 years in the making, the Global Space and Technology Convention (GSTC) has established itself as a cornerstone of the industry in Asia. Global space professionals convene to drive conversations, deepen collaborations and accelerate technological innovations, collectively shaping the industry and impacting our future – across the economy, education, and the planet. From learning how satellite communication and data can transform urban cities to its applications in sustainability, climate change, security and IoT, GSTC is the go-to platform for your space and satellite business to connect with the burgeoning- space industry in Asia. We look forward to the next GSTC happening in-person in Singapore on 15 and 16 February 2023.

**SATELLITE 2023**, March 13-16, Washington DC, USA, <https://www.satshow.com/>

SATELLITE was launched with the goal to connect and unite the satellite industry as we headed toward new frontiers. Over the past 42 years, SATELLITE has served the satellite and space communities and broadened the scope of content to encompass professionals in commercial markets benefiting from satellite technology and applications, such as broadcasting, media & entertainment, government/military, aviation, automotive, financial, healthcare, telecommunications and more.

**Discount code to distribute to APSCC members – APSCC4SAT23**

**Convergence India Expo**, March 27-29, New Delhi, India, <https://www.convergenceindia.org/>



Since 1992, Convergence India has heralded the telecom revolution in the country. Today, it showcases the shift towards a digital world, with new use cases in the fields of telecom, satcom, broadcast, 5G & 6G networks, IT solutions like cloud, Big Data and analytics, AI, smart homes, M2M, IoT, Embedded, Blockchain, FinTech and Digital Gaming – the entire gamut of digital solutions.

Convergence India showcases breakthrough technologies, innovations, trends & best practices under one roof with its carefully curated co-located expos - IoT India, Embedded Tech India, Mobile India, Fintech India & Digital Gaming India. In March 2023, Convergence India celebrates 30 years of fostering partnerships between India and the world, as well as showcasing India's technology landscape. Nation building and the convergence of technologies go hand-in-hand today, and so organised alongside is the Smart Cities India expo – which integrates technology with the key pillars of urban development.

**AVIA OTT Summit**, March 29-30, Singapore, [https://avia.org/all\\_events/ott-summit-2/](https://avia.org/all_events/ott-summit-2/)

**AVIA Future of Video India**, April 13, Mumbai, India, [https://avia.org/all\\_events/future-of-video-india-2/](https://avia.org/all_events/future-of-video-india-2/)

**Space Symposium 2023**, April 17-20, Colorado, USA, [www.spacesymposium.org](http://www.spacesymposium.org)

**Space Tech Expo**, May 3-4, Long Beach, CA, USA, <https://www.spacetechempo.com/>

**CABSAT 2023**, May 16-18, Dubai, UAE, <https://www.cabsat.com/>

**PITA 27th AGM & Business Forum Expo 23**, May 22-26, Port Moresby, Papua New Guinea, <https://www.pita.org.fj/events/event-1/>

**Asia Tech x Singapore 2023**, June 6-9, Singapore, <https://asiatechxsg.com/>

**Australasia Satellite Forum 2023**, June 13-14, Sydney, Australia

**APSCC 2023**, October 10-12, Kuala Lumpur, Malaysia, <https://apccsat.com/>

## **EDITORIALS AND INQUIRIES**

*News, comments, and suggestions can be sent to the editor at:*

*Inho Seo, Editor, APSCC Publications  
Asia-Pacific Satellite Communications Council (APSCC)  
T-1602, 170, Seohyeon-ro, Bundang-gu, Seongnam-si,  
Gyeonggi-do, 13590, Rep. of KOREA  
Tel: +82 31 783 6247 | Fax: +82 31 783 6249*



E-mail: [editor@apsc.or.kr](mailto:editor@apsc.or.kr) Website: [www.apsc.or.kr](http://www.apsc.or.kr)

#### **About APSCC**

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