

APSCC Monthly e-Newsletter

November 2022

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

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

INSIDE APSCC

The APSCC 2022 Conference & Exhibition Marks Great Success!

The APSCC 2022 Satellite Conference & Exhibition successfully ended on October 20 in Seoul, Korea after 3 days of in-depth conference sessions and diverse networking events with more than 500 delegates attending the event. At APSCC 2022, industry leaders covered major issues impacting the Asia-Pacific satellite industry, including market insight on the latest trends, new applications, and innovative technical solutions throughout the three-day discussions and presentation sessions.

The 2022 APSCC Awards

As a collective voice representing the satellite industry of the Asia Pacific region, APSCC has made considerable effort to bring the various entities in the satellite community together for communication and cooperation. Each year APSCC recognizes outstanding organizations and individuals through the APSCC Awards to honor them for their collaboration, guidance and support in helping APSCC reach its mission as well as for their contribution to the satellite industry. The Awards recipients this year were acknowledged for their innovations and achievements in the satellite industry, as well as their leadership in developing and expediting the distribution of new services via satellite in the Asia-Pacific region. At the 2022 Awards Ceremony on October 18, APSCC awarded *Satellite Executive of the Year in Asia-Pacific Award* to Yau Chyong Lim, COO of MEASAT for achievements and contributions to the satellite industry in the Asia-Pacific Region, and by taking the lead to enhance the satellite industry. Also APSCC named Mark Dankberg, Chairman of the Board and CEO of Viasat as *Lifetime Achievement Award* for his outstanding achievements. The 2022 APSCC Awards winners were selected by the APSCC Awards Selection Committee based on nominations submitted by the members of APSCC.

The APSCC-ISU Youth Development Workshop

The 2022 APSCC-ISU Youth Development Workshop was successfully held on October 20 in Seoul, concurrently with the APSCC 2022. The workshop provided a platform for the brightest up-and-coming engineering students and young professionals in Korea to connect with leading satellite and space industry experts and learn more about the opportunities in the sector. The 2022 APSCC-ISU Youth Development provided the students with a deeper understanding of the industry through lectures and case studies.

SATELLITE BUSINESS

EM Solutions Signs RAN SATCOM Support Services Contract

October 31, 2022 – The Commonwealth's Capability Acquisition and Sustainment Group (CASG) has selected EM Solutions to carry out Introduction into Service and Support Services for the Royal Australian Navy's existing fleet of Cobra Maritime Satellite Communications (SATCOM) terminals for

a period of three years, through to August 2025. The contract which is initially valued at approximately \$25.7m, gives CASG the ability to purchase additional terminals as needed to meet requirements for new ship builds and for the provision of enhanced SATCOM capabilities to existing ships. In recent years, EM Solutions' Cobra terminals have been purchased and installed through various individual ADF project offices. This contract, however, provides for consistent sparring, support and training packages to be developed across the entire installed base. The awarding of the contract represents a vote of confidence in the capabilities of Australia's sovereign Defence industry and will enable EM Solutions to add further value to its world-leading products and systems. The development and implementation of the contracted services will occur at EM Solutions' Brisbane facility, enhancing Australian Industry Capability in the area of maritime SATCOM. This will also assist in EM Solutions' development into a full-service company as it continues to successfully deliver Australian developed and manufactured technology to allied navies around the world.

SatixFy Completes Business Combination with Endurance Acquisition Corp.

October 27, 2022 – SatixFy Communications Ltd. has completed its previously-announced business combination with Endurance Acquisition Corp. ("Endurance") following the approval of the business combination by Endurance's stockholders on October 25, 2022 and satisfaction of customary closing conditions. In addition, on October 24, 2022, Endurance and SatixFy entered into a previously disclosed OTC Prepaid Forward Purchase Agreement that calls for purchase and resale of up to 10 million class A shares, subject to the terms and conditions therein. SatixFy has agreed to register the offer and resale of such shares. Following the business combination, David Ripstein will continue in his role as SatixFy's CEO, Yoav Leibovitch will serve as Executive Chairman, and Endurance's CEO Richard Davis will join SatixFy's Board of Directors. The combined company's shares and warrants are expected to begin trading on the NYSE American under the symbols "SATX" and "SATX WSA," respectively, beginning tomorrow, Friday, October 28, 2022.

Claro Brasil to Extend 4G and 5G-Ready Mobile Services across Amazon Region with SES's O3b mPOWER

October 27, 2022 – With unprecedented demand for high-powered mobile connectivity in the most isolated communities of the Amazon, SES today announced it has signed a multiyear capacity renewal with Claro Brasil, through Embratel, its corporate solutions division, to enable the delivery of enhanced 4G/5G-ready services via its O3b mPOWER network, SES's next-gen medium earth orbit (MEO) communications system, in at least eight of 23 cities the telco serves via SES's multi-orbit satellite network across the region. Under the renewal agreement, Embratel could leverage 4 Gbps over SES's O3b mPOWER network to extend its high-powered mobile backhaul service through this cutting-edge technology to serve more than 260,000 inhabitants of the eight cities in the Amazon region. SES will continue to serve other communities in the region with SES's geostationary (GEO) satellite-delivered backhaul capacity.

Ovzon Receives a 2.9 MUSD Order for Their Industry-leading SATCOM-as-a-Service

October 27, 2022 – Ovzon has received a 2.9 MUSD order for SATCOM-as-a-Service from Global RadioData Communications Ltd. (GRC), in the United Kingdom. The demand for high-performing, mobile and resilient satellite communications is increasing rapidly throughout the world. Ovzon's industry-leading SATCOM-as-a-Service solution is uniquely suited for organizations where communications are paramount to the success of critical missions in the most remote locations or when terrestrial infrastructure is unavailable. GRC Ltd provides a fully managed (24/7) end-to-end Satcom Service (6-SAT), with their products and services being used by government and defense agencies, emergency responders, NGO's and the oil, gas and mineral exploration industry throughout the world.

Marlink Deploys Smart Network Technology with Hybrid Connectivity to Drive Odfjell's Cloud-based Digital Strategy

October 26, 2022 – Marlink, the smart network solutions company, has signed a new agreement with Odfjell Management AS, providing seamless access to global enterprise and crew applications across 52 vessels. The contract includes 43 vessels managed by Odfjell Management Norway and a further nine operated by Thome Management Singapore. Marlink will deploy its hybrid connectivity solution to the fleet, including high throughput VSAT, L-band and 4G services using software-defined routing (SD-WAN) for seamless, intelligent data flow via Marlink’s onboard XChange router. The fleet uses standard IT tools including Microsoft Office 365 in its daily operations with MS-Teams used for meetings and document sharing. Odfjell will also take advantage of the growing availability of 4G coverage from shore and will utilize Marlink’s global 4G service for business connectivity when in range, benefiting from low latency and high throughput speeds.

Beam Budget Link Budget Tool SaaS Model is now available in the Microsoft Azure Marketplace

October 26, 2022 – INTEGRASYS announced its addition to the Microsoft Azure Marketplace, prioritizing its approach of offering flexible solutions by adopting a SaaS business model for all the product line. Beam Budget’s Link Budget Calculation Tool is now available in the Microsoft Azure Marketplace with 4 different paid per user plans available that allow for either annual or monthly payments. INTEGRASYS has differentiated its plans by offering only GEO or Multi-orbit in order to give the customer the ability to adapt the tool to address their business and main duties. The Beam Budget offer and all of its plans are available in the Azure Marketplace for automated purchase. Since the Pandemic, INTEGRASYS has evolved its business model to satisfy the needs of its current customers as well as potential customers. Moving forward the company will introduce all its solutions in Microsoft Azure in order to efficiently deliver additional value to its customers, technically, as well as commercially.

Intelsat to Provide-speed High In-flight Wi-Fi to Virgin Australia’s Fleet

October 25, 2022 - Intelsat has been selected to provide high-speed in-flight Wi-Fi to Virgin Australia’s fleet of existing 737NG aircraft and future-delivery 737MAX aircraft. Intelsat’s 2Ku satellite connectivity solution will deliver industry-leading speeds to support video streaming, web browsing, and anything else Virgin’s guests want to do with Wi-Fi-enabled devices onboard their flights. A recent survey of Virgin Australia customers indicated Wi-Fi connectivity was an important part of travel for one in three leisure travellers and almost half of the business passengers. The popular inflight feature will be complimentary for the airline’s Business Class guests and Beyond and Velocity Platinum members. For all other guests, Wi-Fi access will be available for a nominal fee. The 2Ku antennas that facilitate the IFC system will be installed gradually over 18 months on more than half of the airline’s fleet starting mid-December 2023.

Airbus and Salam Join Forces for High Altitude Platform Station (HAPS) Connectivity Services

October 24, 2022 – Airbus’ HAPS Connectivity Business has signed a strategic partnership with Salam, a leading Saudi telecommunications and ICT company and part of the Mawarid Media & Communications Group (MMCG), to progress the development of private networks, IoT applications, disaster management solutions and other connectivity and high-altitude Earth observation services from the stratosphere to serve the Kingdom of Saudi Arabia. Airbus, a leader in the HAPS (High Altitude Platform Station) market with Zephyr, will provide low-latency, direct-to-device 5G connectivity services, in addition to persistent high-resolution imaging and live-video, delivered from the stratosphere. The company’s solution will support in bridging the digital divide and will bring connectivity services to those who are currently unserved or underserved from a solar powered and carbon neutral platform.

Gilat Awarded Over \$10M to Power IFC Applications of Tier-1 Global Aerospace System Integrator

October 24, 2022 – Gilat Satellite Networks Ltd., a worldwide leader in satellite networking technology, solutions, and services, announced today the receipt of more than \$10M in orders for transceivers to power the IFC applications of a Tier-1 global aerospace system Integrator. Gilat’s fully-

owned US-based subsidiary, Wavestream, will provide its Ka-band AeroStream™ family of transceiver products to enable in-flight connectivity.

KONGSBERG Expands Presence in South Australia

October 20, 2022 – Kongsberg Defence Australia has announced a significant investment in a dedicated facility, located in Mawson Lakes, to assist in the delivery and support of existing and future Defence acquisition programs. Kongsberg Defence Australia is a local subsidiary of the Norwegian Defence company, Kongsberg Defence and Aerospace, a leading global technology company specialising in areas including Command, Control, Computing, and Communication (C4) systems, Ground Based Air Defence, remote weapon systems, and precision strike missiles. Kongsberg Defence Australia supports Kongsberg Defence and Aerospace with the local manufacture, assembly, integration and test of the C4 system for the National Advanced Surface to Air Missile System (NASAMS) capability, which is currently under production for the Australian Army through Raytheon Australia. Kongsberg Defence Australia is also under contract with Hanwha Defence Australia as its C4 softwareintegration partner under Project LAND 8116 Phase 1. Under this contract, Kongsberg DefenceAustralia will integrate the Protected Mobile Fires capability into the Army's C4 Force Structure. This involves the provision of the CORTEX Integrated Combat Solution (ICS) architecture and Fire Control System, and integration of tactical communication systems and Battle Management Systems.

Gilat Selected by Sencinet for Petrobras' Oil and Gas Industry Satellite Connectivity Project

October 20, 2022 – Gilat Satellite Networks Ltd. was selected by Sencinet for Petrobras' oil and gas industry satellite connectivity project. Petrobras, Brazil's largest oil and gas company, is modernizing and expanding its onshore/offshore telecommunications capabilities with satellite connectivity solutions powered by Gilat's SkyEdge II-c SATCOM network. Sencinet is deploying Gilat's SkyEdge II-c within offshore platforms, ships, and land stations as part of the innovative managed services satellite connectivity project they are providing to Petrobras.

Azerbaijan Selects Aireon Data for Air Traffic Services

October 19, 2022 – Azeraeronavigation (AZANS), the air navigation service provider of the Azerbaijan Republic, has selected Aireon to provide its trusted and proven space-based Automatic Dependent Surveillance-Broadcast (ADS-B) data for air traffic surveillance in Azerbaijan airspace. The Aireon ADS-B data will complement ground surveillance to cover the complete BAKU FIR in Azerbaijan, at all altitudes. The airspace of the Azerbaijan Republic is 165,400 sq. km, 86,600 of which is over land and 78,800 sq. km is above the Caspian Sea. The length route network within the airspace of Azerbaijan Republic amounts to around 11,000 km.

Viasat and Inmarsat Receive Approval for Proposed Combination from Australia's Foreign Investment Review Board

October 18, 2022 – Viasat and Inmarsat announced that the Australian Government's Foreign Investment Review Board (FIRB) has confirmed it has no objections to the planned combination of their businesses. FIRB's clearance of Viasat's proposed acquisition of Inmarsat under the Foreign Acquisitions and Takeovers Act 1975 is the latest approval for the transaction. Australia is an important market in which the companies have significant business and customer relationships. The proposed transaction has already secured several key regulatory approvals, most recently with the UK Government's clearance of the proposed transaction under the National Security and Investment Act, and over the summer from the Committee on Foreign Investment in the United States.

Kacific Launches Gigstarter Self-service Platform and Retail Packages – Positioning Its Retail Network for High Growth

October 18, 2022 - Kacific is bolstering its offering to both its network of over 480 distributors and their end-users, bringing more competition to the retail market. This investment adds value to

Kacific's offering to distributors and resellers, giving it an advantage as it plans for growth through more satellites. Kacific has been very successful in the retail market with its packaged Gigstarter plans, which cater to families, communities, and small businesses in under-served areas, and are sold through authorised distributors and resellers. In response to market feedback from everyday users in the Asia Pacific region, Kacific is introducing new options and changes to the Gigstarter plan, as well as investing in a streamlined self-service portal. Driven by spikes in demand for extra data by capped plan end-users, Kacific is introducing a range of top-up packs. These 10, 20, 30 and 50 GB top up packs will be available to all users of the GigStarter packaged service.

Rivada Signs MoU with SpeQtral to Develop Ultra-Secure Communications for Government & Enterprise Worldwide

October 18, 2022 – Rivada Space Networks GmbH, a global network company launching a constellation of 600 low-earth-orbit satellites (LEO) to enable secure, global connectivity for governments and enterprises, today announced it has signed a partnership agreement with SpeQtral, an emerging leader in quantum-secure communications systems. Rivada Space Networks (RSN) is partnering with SpeQtral to demonstrate the technical compatibility of adding a QKD encryption layer to enhance the security of communications over low earth orbit (LEO) satellite constellations. In 2024, RSN will start the launch of its 600-satellite laser-connected constellation with four precursor satellites and SpeQtral will launch its QKD satellite, SpeQtral-1. This will allow RSN and SpeQtral to jointly establish quantum-secure data links over the RSN precursor satellites and validate both the space and ground station terminals required for QKD-enabled encrypted traffic on the Rivada Space Networks constellation.

OneWeb and Panasonic Avionics Corporation to Deliver LEO Connectivity to Airlines Worldwide

October 17, 2022 – OneWeb and Panasonic Avionics Corporation (Panasonic Avionics) have agreed to terms that enable Panasonic Avionics to market, sell, and support OneWeb's high-speed, low-latency in-flight broadband services to commercial airlines worldwide. Panasonic Avionics will offer OneWeb's global service standalone or paired with Panasonic Avionics' award-winning GEO service, which covers 99.6% of the world's flight routes. Adding support for OneWeb represents Panasonic Avionics' dedication to a multi-orbit strategy and will offer airlines more choices, with top-tier products supporting forward link speeds approaching 200 Mbps and return link speeds up to 32 Mbps everywhere, including polar routes. This coverage and performance will improve the in-flight surfing and streaming experience for passengers and will open the door to new airline passenger experiences. Panasonic expects to support OneWeb-equipped aircraft in the second half of 2023. Panasonic Avionics' will make its catalogue of cloud-enabled, broadband-connected applications available over the OneWeb network, including mobile phone connectivity, ARC™ moving map, ZeroTouch™ content management, and related services.

The Gogo 5G Network is Nationwide

October 17, 2022 – Gogo Business Aviation has finished construction of its nationwide Gogo 5G network. Gogo 5G is expected to deliver ~25 Mbps on average, with peak speeds in the 75-80 Mbps range, and has been designed to deliver high throughput with very low latency to address the increasing demand for data-heavy interactive services like video conferencing, live TV and gaming. Gogo's AVANCE platform, with its multi-bearer capability and software-centric design, allows customers to future-proof their inflight connectivity investments, with easy upgrade paths to both Gogo 5G and Gogo's global Low-Earth Orbit (LEO) satellite-based product in the future. The first-article Supplemental Type Certification (STC) for the 5G belly-mounted MB13 antennas and the X3 (5G) LRU have been completed. That STC will be amended once the 5G chip becomes available, which is expected to occur in mid-2023. Gogo is working closely with each of the business aviation original equipment manufacturers and several authorized Gogo dealers to develop additional STCs that will cover more than 30 aircraft models in the aftermarket or from the factory. Customers who want Gogo 5G service can install the AVANCE L5 system with full 5G provisions (including the MB13

antennas) today, and operate on Gogo's 4G network until the X3 LRU is available. Once the X3 is ready, it can be installed quickly and 5G service can begin immediately, saving downtime and expenses.

e& and SES Join Forces to Offer One-hop Connectivity to Microsoft Azure

October 13, 2022 – The Carrier and Wholesale Services (C&WS) division of e& (formerly known as Etisalat Group) today announced its partnership with Microsoft and SES to host the co-located SES O3b mPOWER and Microsoft ground station at Ras Al Khaimah. The first O3b mPOWER ground station in the region will facilitate one-hop connectivity to the cloud from remote sites so that customers can optimize their global business operations smoothly. The partnership will also enable companies - regardless of their location - to accelerate their digitalization plans while unlocking more value for the businesses. This trio partnership will mean that e& network services can be easily connected and extended via SES's second-generation medium earth orbit (MEO) constellation – O3b mPOWER – which aims to deliver high-speed connectivity services from tens of megabits to multiple gigabits per second to one site. The one-hop connectivity to Azure Cloud and SES's satellite network also enables simplicity, flexibility but also minimizes any network latency delays. The ground station at Ras Al Khaimah is one of the eight initial O3b mPOWER gateway sites which will support both customer data services and the TTC (Telemetry, Tracking and Control) control of the satellite system.

IEC Telecom Expands Satcom Offerings with Intelsat FlexMove

October 12, 2022 – IEC Telecom Group has officially announced a new partnership with Intelsat. With digitalisation on the rise, dependency on always-on connectivity is rising. Corporate and private organisations seek to secure continuity of their operations no matter how remote, whether on the pause or the move. IEC Telecom Group through its multiple offices around the world is ready to meet these requirements as a new solution partner for the Intelsat FlexMove High-Throughput Satellite service. Renowned for dependable Communications-on-the-Move and Communications-on-the-Pause service, Intelsat operates a Ku-band satellite fleet that ensures reliable connectivity for areas with no or limited GSM coverage and powerful backup solution for urban enterprises. Intelsat has qualified several state-of-the-art satellite terminals that can be paired up with a FlexMove service plan to support recurring, seasonal, occasional and event-based use. This capability offers unprecedented flexibility to users with large remote operations anywhere. FlexMove is delivered over Starwin and Satcube antennas for stationary use and Kymeta for vehicular use. These compact and portable terminals do not require a complicated set up and can be put into service as soon as required. This makes them especially useful for special missions and humanitarian corps, whose actions depend on the swift response.

Eutelsat Strategy Update on the Proposed Combination with OneWeb

October 12, 2022 – Eutelsat Communications today host a Strategic Update on the proposed combination with OneWeb, announced in July 2022. Eutelsat and key OneWeb shareholders signed a Memorandum of Understanding in July 2022, with a view to combining Eutelsat and OneWeb in an all-share transaction, whereby Eutelsat and OneWeb shareholders will each hold 50% of the Eutelsat shares. The proposed combination represents a transformational transaction aimed at creating a global leader particularly well positioned to capture the fast-growing Satellite Connectivity market by offering the first global combined GEO/LEO infrastructure. The combination represents the logical next step in Eutelsat and OneWeb's growing cooperation since Eutelsat's initial investment in OneWeb in April 2021, which paved the way for major commercial distribution partnerships and multiple joint technical initiatives, including common workstreams to shape the next generation systems for hybrid GEO/LEO infrastructure. Following completion of the combination, Eutelsat and OneWeb will begin working together on the design of OneWeb's future Gen 2 constellation. In this context, both Eutelsat and OneWeb are convinced that the time is right to take their partnership to the next level via the proposed combination.

Hurtigruten Expeditions Completes Fleetwide Implementation of Starlink as Part of Managed Service Solution from Speedcast

October 12, 2022 – Speedcast has partnered with Hurtigruten Expeditions to complete fleetwide implementation of SpaceX’s Starlink low earth orbit (LEO) broadband connectivity. Hurtigruten Expeditions, the world’s largest and leading expedition cruise line, and its long-time connectivity partner, Speedcast, began initial testing and integration of Starlink’s LEO service onboard the fleet in March. Roll-out of the high-speed, low-latency connectivity will be finished by the end of October, making the cruise line likely to be the first in the industry to complete a fleetwide installation. Starlink’s broadband connectivity is being integrated via Speedcast’s advanced network management technologies, blending the LEO coverage with multiple transmission paths delivered to the fleet as part of a complete managed service. This includes traditional geostationary (GEO) orbit coverage, and 4G/5G for Hurtigruten Expeditions’ high-demand applications.

Viasat to Sell Its Link 16 Tactical Data Links Business to L3Harris Technologies for \$1.96 Billion

October 3, 2022 – Viasat Inc. has entered into a definitive agreement to sell its Link 16 Tactical Data Links (TDL) business to L3Harris Technologies for \$1.96 billion, subject to customary transaction adjustments in accordance with the agreement. The sale is expected to result in cash proceeds to Viasat of approximately \$1.8 billion net after estimated taxes, fees, and other expenses. Viasat's Link 16 Tactical Data Link business is part of its Government Systems segment. Over the past 25 years, the business has grown to be a leading provider of Link 16 TDL products and solutions. The sale of the business includes the Multifunctional Information Distribution System (MIDS) platforms and associated next-generation Link 16 terminals and handheld radios, as well as the Link 16 to space business.

ST Engineering iDirect’s Game-Changing Mx-DMA MRC Technology Positions AXESS Networks for Cellular Backhaul Network Expansion across Latin America

October 4, 2022 – ST Engineering iDirect has delivered its Mx-DMA® MRC technology to global service provider AXESS Networks, enabling the company to further augment its cellular backhaul networks whilst achieving greater efficiencies. The implementation, across Colombia, Peru and Mexico, has been completed at a time when demand for mobile connectivity continues to increase across the region where it serves businesses, organizations and individuals with essential communications. A longstanding customer of ST Engineering iDirect, AXESS has deployed both the Evolution® and Dialog® platforms which provide VSAT and 4G services to the Americas and EMEA regions. As a company that strives to remain at the leading edge of technological advancements, AXESS has adopted the revolutionary Mx-DMA MRC waveform after utilizing ST Engineering iDirect’s Mx-DMA return technology that incorporates the best features of MF-TDMA and single channel per carrier (SCPC).

Marlink Strengthens its Presence in Greece with the Acquisition of Hellenic Radio Services

October 3, 2022 – Marlink, the smart network solutions company, has completed the acquisition of the satellite communications business of Hellenic Radio Services (HRS). Following years of successful organic growth via its Piraeus-based subsidiary Marlink CG, this acquisition strengthens significantly Marlink’s position and footprint in the strategic Greek market and enables the company to further expand its service and support operations to meet the growing requirements of Greek shipowners. Through this transaction Marlink has acquired the satellite communication assets, the experienced staff and the customer support structure of HRS, substantially increasing its installed base in the Greek market with over 750 additional satcom-equipped vessels. The satellite communications business of HRS will be combined with Marlink CG, creating an even stronger local company and leading force in the Greek and Cypriot markets.

MEASAT-3d Charts New Milestone with beIN ASIA PACIFIC and Globecast Leading Sports Content Provider Becomes First Broadcaster to Migrate onto the New Satellite with Media Services Provider Globecast

October 25, 2022 – Malaysia’s premier satellite operator has begun migrating the beIN SPORTS channels to the MEASAT-3d satellite, the first set of broadcast channels to begin operations on the new satellite launched on 22 June 2022. The solution is delivered in partnership with Globecast – beIN SPORTS’ solutions provider for media and content management. After 31 October 2022, all 3 pan-regional channels of beIN SPORTS content covering the Asia-Pacific region will be based on MEASAT-3d – MEASAT’s latest and most advanced satellite, which carries C- and Ku-band payloads for direct-to-home (DTH) services. Globecast provides a wide range of multifaceted media supply chain services including content processing, cloud playout and delivery services, involving satellite, fibre and IP streaming distribution. It also hosts beIN SPORTS’ OTT platform for the Asia-Pacific region and provides the ability to create and distribute pop-up channels when required. Meanwhile, beIN SPORTS, which has been broadcast via MEASAT’s satellites since 2013, offers a comprehensive line-up of live sporting coverage in English, Thai and Cantonese, through its 15 unique channel feeds available on major pay-TV platforms in the region and its live streaming app, beIN SPORTS CONNECT. Its operating entity beIN ASIA PACIFIC is a leading sports content provider operating in 12 countries across the Asia-Pacific region.

ARTEAR Extends Intelsat Agreement for Content Distribution across Argentina, the Americas

October 19, 2022 – Intelsat has signed a multi-year and multi transponder agreement with ARTEAR to meet the media company’s entire content distribution and contribution needs. ARTEAR is a part of Group CLARIN, the largest media business group in Argentina. ARTEAR will be utilizing Intelsat 34 (IS-34), Galaxy 13 (G-13), and Intelsat 14 (IS-14), for Pay TV, Terrestrial Television (Analog Television and Digital Terrestrial Television), and Contribution services in the United States and Latin America. IS-34 located at 304.5E has full cable penetration across Latin America and will distribute a variety of Pay TV content ranging from entertainment, sports and music to viewers. In particular, IS-34 provides 100% coverage over Argentina, providing ARTEAR with the optimum platform for content distribution in their home market. G-13 located at 127W, will distribute Pay TV channels to the United States. Reaching over 52 million cable subscribers and over 98% subscribers, G-13 allows ARTEAR to maximize the commercialization potential for their content in the North America market.

SES Launches First Dedicated Satellite Distribution Platform for Sports & Events Content

October 18, 2022 – SES’s rapidly growing sports and events customer base will be able to successfully aggregate and deliver exciting and crucial sports and live events to screens across Europe and the MENA region on SES’s new satellite platform, announced the leader in global content connectivity solutions today. The new dedicated sports and events distribution platform offers powerful wide beam coverage over Europe, the Middle East and North Africa and uses the latest DVBS2x modulation, enabling media rights holders and authorised feed takers to enjoy high throughput, boosted network efficiency, flexibility and security. The platform will support various customers, including broadcasters, professional sports leagues, national and international sports associations, and sports rights holders transmitting major sporting events taking place globally, including winter sports and motor sports content later this year. A leader in sports and events, SES broadcasts over 700 hours of premium sports each day and works with more than 500 sports and events customers. SES broadcasts a wide range of sports, from men’s and women’s professional football, American football, tennis, golf and cricket to cycling. These include on-going games and matches for high-profile leagues such as the NFL, Premier League and Women’s Serie A to sports with specialised interest, such as motor sports.

Space Machines Company Partners with Arianespace to Explore Inspace Transportation and Logistics Services

October 31, 2022 – Space Machines Company (SMC), the Australian in-space transportation and logistics startup, today signed a MoU with Arianespace. They agreed to study the available options to ensure an optimal compatibility between the launchers and the OTV family for different mission scenarios. Through its Optimus Orbital Transfer Vehicle (OTV), one of the largest commercial spacecrafts designed, manufactured, and assembled in Australia, SMC is building the future of in-space transportation and logistics. SMC's space capability also addresses the future challenge of inactive satellites and space debris, designing solutions to help customers manage their satellites in space. SMC's spacecraft are designed to provide future capability for in-orbit logistics services, including spacecraft inspection, servicing, maintenance and removal. SMC is the only Australian organisation focussed on in-space transportation and logistics, a key foundation service required for Earth orbits, Lunar transport and beyond. Just as different modes of transportation and logistics have unlocked tremendous economic value on Earth, SMC believes that in-space transportation is the next frontier. Launching in the second quarter of 2023, the company's "Roll Out" first mission will carry Australian customers' payloads, reinforcing SMC's position as a "last-mile" services provider. In order to maximise its offering, SMC aims to make the Optimus OTV compatible with as many launchers as possible worldwide, which includes the new Ariane 6 and Vega-C vehicles, operated by Arianespace.

Relativity Space Maps Path to Terran R Production at Scale with Unveil of Stargate 4th Generation Metal 3D Printers

October 24, 2022 – Relativity Space, the first company to 3D print rockets and build the largest metal 3D printers in the world, today unveiled the latest iteration of its first-of-its-kind proprietary manufacturing platform, Stargate 4th Generation metal 3D printers. These printers will underpin both the development and rate production of Terran R, Relativity's fully reusable, 3D printed rocket that will be capable of launching 20,000 kg to low Earth orbit (LEO). The newest Stargate printer technology defies traditional printing constraints by moving horizontally as it feeds multiple wires into a single print head to print orbital rockets. Stargate 4th Generation printers also radically simplify manufacturing supply chains, as they are capable of printing a rocket with 100x fewer parts in a matter of months. With faster iteration cycles, Stargate printers are capable of accelerating progress and innovation within the aerospace industry. Most immediately, Stargate 4th Generation printers will serve as the primary manufacturing infrastructure for Terran R production. Longer-term, Stargate 4th Generation printers offer tremendous value-generating potential for other end-product use cases within the \$1T+ aerospace, aviation, energy, and defense industries as the core of a new tech stack for aerospace products. To date, Relativity has secured five customers across \$1.2B+ in customer contracts for Terran R, including a multi-launch agreement with OneWeb and a commercial mission to Mars with Impulse Space.

36 OneWeb Satellites Successfully Launched by ISRO/ NSIL from Sriharikota

October 23, 2022 – OneWeb confirmed the successful deployment of 36 satellites launched by NewSpace India Limited (NSIL), from the Satish Dhawan Space Centre (SDSC- SHAR) in Sriharikota, India. This launch by ISRO and NSIL is one of the biggest commercial orders by India's premier space organization, and the first using the LVM3 rocket. This is OneWeb's 14th launch, bringing the constellation to 462 satellites. This launch represents more than 70% of its planned 648 low Earth orbit (LEO) satellite fleet that will deliver high-speed, low-latency connectivity worldwide. With only four more launches to go, OneWeb remains on track to activate global coverage in 2023, while its connectivity solutions are already live in regions north of 50-degrees latitude. This partnership with NSIL and ISRO demonstrates OneWeb's commitment to provide connectivity across the length and breadth of India by 2023. From Ladakh to Kanyakumari and Gujarat to Arunachal Pradesh, OneWeb will bring secured solutions not only to enterprises but also to towns, villages, municipalities and

schools, including the hardest-to-reach areas across the country. OneWeb's commitment to enhance connectivity in India is backed by Bharti Global, its largest investor. The LVM3 launch vehicle realised with complete indigenised technology had four consecutive successful missions, which includes the critical Chandrayaan-2 mission.

Sidus Space Executes Launch Agreement with Vaya Space

October 20, 2022 – Sidus Space, Inc., a Space-as-a-Service company, focused on mission critical hardware manufacturing combined with commercial satellite design, manufacture, launch, and data collection, today announced that it has signed a launch agreement with Vaya Space for four launches over multiple years. Vaya Space is an emerging leader in sustainable space access and this agreement expands Sidus Space's ability to deliver satellite services. Sidus Space recently announced a launch agreement with SpaceX for a total of 5 expected launches in the next 13-15 months. In addition, as an ISS implementation partner, Sidus also has the ability to launch from the ISS which creates multiple paths to orbit for LizzieSat™ with the signing of this launch agreement with Vaya Space. LizzieSat™ is Sidus' 100kg, partially 3D printed, small satellite for its planned multi-mission LEO satellite constellation. Sidus Space has an approved International Telecommunication Union (ITU) Spectrum license for multiple altitudes and inclinations. LizzieSat™ satellites will fly custom payloads tailored to maximize customer return on investment.

New Agreement with NASA Puts Relativity Space on Path to Operate One of America's Largest Rocket Engine Test Facilities

October 18, 2022 – Relativity Space, the first company to 3D print rockets and build the largest metal 3D printers in the world, today detailed its plans to operate one of the largest rocket engine test facilities in the United States. Through an agreement with NASA, Relativity is significantly expanding its facilities and infrastructure at NASA's historic Stennis Space Center in Hancock County, Mississippi. The new facilities will support testing of Relativity's entirely 3D printed Aeon R engines for its fully reusable 3D printed rocket, Terran R. Relativity will utilize over 150 additional acres within the Stennis Test Complex, with testing infrastructure for its Aeon R engines being built from the ground up on previously unutilized land north of the A and E Test Complexes. Relativity has begun ground clearing work for several new engine test stands, a full scale second stage stand, office buildings, and a vehicle hangar. The company is already underway testing Aeon R components across Relativity's E2 test complex, with plans to build the first Aeon R engine and turbopump assembly and begin thrust chamber assembly tests for its Aeon R engines in the coming months at a leased E1 test cell. Full Aeon R engine tests are tracking to occur in late 2023 at Relativity's newly announced facility expansions.

Virgin Orbit and Luxembourg Minister of Defence Sign Agreement to Advance Allied Responsive Space Capabilities across Europe

October 17, 2022 – Virgin Orbit and the Luxembourg Minister of Defence today signed a Letter of Intent that will begin the process towards developing responsive space capabilities inclusive of mobile launch infrastructure that would be based in Luxembourg, but available for NATO partners, and other Allies across the European continent. As part of the agreement, Virgin Orbit, in close coordination with the Luxembourg Directorate of Defence, will assess how a responsive space capability could be based in Luxembourg and optimized for use by NATO and other European allies. In this initiative, Virgin Orbit will develop a plan for the development, delivery, mobilization, and sustainment of LauncherOne Ground Support Equipment and other responsive launch infrastructure that would be allocated for Allied use. Through this collaboration, Virgin Orbit and the Directorate of Defence will engage with partners interested in leveraging this capability and determine the necessary operating constructs and requirements for delivering responsive launch infrastructure to Luxembourg that would allow Allied nations to conduct horizontal launches from a network of active and on-call spaceports in Europe.

Successful Launch of EUTELSAT HOTBIRD 13F Satellite

October 15, 2022 – Eutelsat Communications announced that EUTELSAT HOTBIRD 13F satellite was successfully launched into Geostationary Transfer Orbit by American space launch provider SpaceX using a Falcon 9 rocket that lifted off from Cape Canaveral, Florida. EUTELSAT HOTBIRD 13F is one of two satellites built by manufacturer Airbus Defence and Space. EUTELSAT HOTBIRD 13F is based on the Eurostar Neo telecommunications satellite platform, developed under an ESA Partnership Project with Airbus designed to foster innovation and competitiveness in the European space industry. Once into orbit and positioned, the satellite EUTELSAT HOTBIRD 13F will, with its twin EUTELSAT HOTBIRD 13G, reinforce and enhance the broadcast of more than a thousand television channels into homes across Europe, Northern Africa and the Middle East. Moreover, the satellites will offer advanced features in terms of uplink signal protection and resilience. The two satellites will be replacing three older satellites at Eutelsat’s 13° East flagship neighbourhood position.

Astra Announces Spacecraft Engine Contract with Astroscale

October 13, 2022 – Astra Space, Inc. has reached an agreement with Astroscale Holdings Inc (“Astroscale”), the market leader in satellite servicing and long-term orbital sustainability across all orbits, to provide Astra Spacecraft Engines™ for its space sustainability spacecraft platform, ELSA-M, that can safely and responsibly capture and retire multiple client satellites in a single mission. The ELSA-M satellite service will be designed and optimised to remove multiple pieces of debris from LEO in a single orbital mission. The development of the ELSA-M commercial service is supported by the UK Space Agency and European Space Agency as part of the ESA Sunrise program.

Exotrail Wins Landmark In-orbit Logistics Missions

October 11, 2022 – In a contract worth several million euros, Exotrail is the in-orbit logistics operator the French institutions have selected to ensure a capacity for satellites transfer into low Earth orbit (LEO). Exotrail’s in-orbit transport service spacedrop™, has been selected via a competitive tender process to perform the first orbital logistics missions ordered by French institutions. In 2021, the French government announced a national investment and stimulus package (France 2030), which included 1 billion euros to support emerging French space companies. As part of this package, Exotrail and the French government Space Agency (CNES) will ink a two-mission contract. The first mission, scheduled for 2024, will see Exotrail’s spacevan™ vehicle demonstrate its ability to change satellite altitude and plan in combined maneuvers – a game changer for small satellite constellation deployment. In a second mission scheduled for 2025, the company will transport a microsatellite from the launcher’s delivery point to its final orbit. This landmark contract is another meaningful step towards establishing Exotrail as a worldwide space logistics leader and creates significant opportunities for commercial and institutional space transportation companies to leverage the remaining capacity of these missions.

NASA Awards Contract to SpaceLink

October 11, 2022 – SpaceLink, a company that provides secure data relay from any orbit, any time, announced it was awarded a contract by NASA Goddard Space Flight Center (GSFC) to study how commercial optical ground terminals will integrate into the Near Space Network. The funded study includes a demonstration of end-to-end transport of multi-source data at the SpaceLink gateway in the Mojave Desert. SpaceLink is creating a TDRSS-like capability in MEO, to significantly increase throughput, provide persistent links to space-borne assets, and securely deliver data in real-time. It is well-positioned as a resource to support NASA’s transition towards commercial services for Direct to Earth communications and Space Relay. As part of the study, SpaceLink will identify the barriers, challenges, and solutions associated with integration of optical communications ground terminals into the Near Space Network architecture. The technical demonstration consists of an end-to-end test of multi-source data moving from SpaceLink’s Mojave Gateway facility to NASA’s terrestrial network using Amazon Web Services (AWS) cloud infrastructure.

Intelsat Announces Successful Launch of Galaxy 33 and Galaxy 34 Satellites

October 8, 2022 – Intelsat announced the successful launch of Galaxy 33 and Galaxy 34, geosynchronous communications satellites that will ensure service continuity to Intelsat’s North American media customers. The Northrop Grumman-manufactured Galaxy 33 and Galaxy 34 satellites launched aboard SpaceX’s Falcon 9 rocket from Cape Canaveral Space Force Station in Florida. Galaxy 33 will be the replacement satellite at 133 degrees west once it is in service in early November. The satellite will provide service continuity for distribution to cable headends throughout the United States. Galaxy 34 will replace Galaxy 12 at 129 degrees west once it is in service in late 2022. This satellite will serve as the new restoration payload for Intelsat’s Galaxy cable distribution customers, allowing the previous restoration role at 121 degrees west to be converted to a core cable distribution satellite. Today’s launch continues Intelsat’s Galaxy fleet refresh plan that started with Galaxy 30 in 2020 and carries the first two of a total of seven new Intelsat satellites launching in the next six months.

Rocket Lab Successfully Launches 31st Electron Rocket, Breaks Annual Launch Record

October 7, 2022 – Rocket Lab USA, Inc. broke its annual launch record with the launch of “It Argos Up From Here,” a dedicated launch for General Atomics Electromagnetic Systems (GA-EMS). The mission was Rocket Lab’s 31st Electron launch overall and the eighth for the year to date, besting the company’s previous record of seven launches in 2020. Rocket Lab has now successfully launched a mission every month since April 2022, delivering frequent and reliable access to orbit. Rocket Lab remains on track to continue its monthly launch cadence for the rest of the year, with missions scheduled from Launch Complex 1 in New Zealand, as well as the inaugural mission from Launch Complex 2 at the Mid-Atlantic Regional Spaceport on Virginia’s Eastern Shore.

SES Successfully Launches Second and Third C-Band Satellites on ULA Rocket

October 5, 2022 – SES-20 and SES-21 satellites were successfully launched into space by the United Launch Alliance’s (ULA) Atlas V rocket from Cape Canaveral Space Force Station in Florida, United States, at 5:36 pm local time on Tuesday, October 4. Both C-band satellites will enable SES to continue delivering TV and radio to millions of American homes and provide other critical network communications services. SES-20 and SES-21 will operate in the 103 degrees West and 131 degrees West orbital slots, respectively, and are expected to begin operations in November 2022. These launches are part of a broader Federal Communications Commission (FCC) program to clear a portion of C-band spectrum to enable wireless operators to deploy 5G services across the contiguous U.S. (CONUS). In response to this mandate from the FCC, satellite operators such as SES are required to transition their existing services from the lower 300 MHz to the upper 200 MHz of C-band spectrum to make room for 5G. SES-20 and SES-21 are the second and third C-band satellites that SES has launched as part of its effort to free up the lower 300 MHz of C-band spectrum across the U.S. by December 2023 while maintaining uninterrupted services. SES-22 was the first C-band satellite to be launched on June 29, 2022.

EXECUTIVE MOVES

BlackSky Appoints Jon Kirchner as Chief Product Officer

October 26, 2022 – BlackSky Technology Inc. appointed Jon Kirchner as its new Chief Product Officer continuing the company’s growing momentum as a global leader in real-time geospatial insights. As part of BlackSky’s executive leadership team, Mr. Kirchner will deliver product solutions that help customers experience the increasing value of the company’s Spectra AI tasking and analytics platform and high-revisit, high-resolution satellite constellation. Mr. Kirchner brings 30 years of experience to BlackSky managing product development, product management, software, sales, marketing, and business operations teams. Prior to joining BlackSky, he advised private and private equity-backed companies regarding investments in satellites, space-based infrastructure, robotics, smart infrastructure, industrial technology, and Industry 4.0 sectors. Mr. Kirchner has held multiple

executive leadership positions during critical phases of growth at Globecom Systems, GeoOptics, Arqiva, and Loral Skynet.

Eutelsat Group Company Secretary Julie Burguburu to Step down, and David Bertolotti Appointed as Her Successor

October 25, 2022 – Eutelsat Communications' Executive Committee is set to change as of 12 December. The Company Secretary and Group General Counsel, Julie Burguburu, will step down and be succeeded by David Bertolotti. David Bertolotti has held the position of Director of Institutional and International Affairs at Eutelsat since 2020. He will succeed Julie Burguburu by joining the Group's Executive Committee and serving as Company Secretary, where, in addition to his responsibilities for public and international affairs, he will be in charge of the Group's legal department, corporate governance, compliance and external communications as well as risk and safety management.

Satellogic Announces New Leadership Appointments to Position Company for Rapid Growth in Commercial Markets and Customer-Centric Innovation

October 20, 2022 – Satellogic Inc., a leader in sub-meter resolution Earth Observation (EO) data collection, announced Matt Tirman has been promoted to Chief Commercial Officer, Ignacio Zuleta has joined as the new VP of Product Imagery Platform, and Sebastien Prioris has been added as VP of Product Platform Applications. With these strategic leadership appointments, Satellogic is further closing the gap between space innovation and scalable customer solutions. Tirman joined Satellogic in 2021 as President of Satellogic North America, the company's US subsidiary pursuing business with the US and Canadian public sector. As Chief Commercial Officer, Tirman will lead Satellogic's worldwide go-to-market efforts across marketing, sales, and customer success. Zuleta joins the firm with extensive experience developing and productizing novel measurements, payload systems engineering, and distributed imaging systems. Previously, he was a Senior Director Payloads at Planet, a platform that processes and distributes a global stream of satellite data into customer workflows, and Head of Remote Sensing at Indigo Agriculture.

MEASAT COO Yau Chyong Lim Named Satellite Executive of the Year by the APSCC

October 19, 2022 – Yau Chyong Lim, Chief Operating Officer (COO) of MEASAT Global Berhad ("MEASAT"), was recognised by the Asia Pacific Satellite Communications Council (APSCC), with the 2022 Satellite Executive of the Year in the Asia Pacific award at the 2022 APSCC Awards Ceremony in Seoul, South Korea. The award recognizes outstanding leadership achievements by an industry executive and lasting impact from those achievements in the satellite and space industry. With more than 25 years in the satellite industry, Yau has played a critical role in transforming MEASAT from a video-based broadcast platform provider and bandwidth leasing company to a full-service broadband solutions company. Under his leadership, MEASAT has expanded its role as Malaysia's key rural broadband service provider through its CONNECTme NOW satellite broadband service. Recently, Yau led the MEASAT team towards the successful launch of the multi-mission MEASAT-3d satellite, providing unrivalled in-orbit satellite redundancy for DTH, broadcasting and telecommunications services for the region, as well as broadband speed up to 100 Mbps throughout Malaysia including areas with limited or no terrestrial coverage. This year's award continues a proud heritage of MEASAT personnel receiving recognition from the APSCC. Previously, Dr Ali R. Ebadi, then MEASAT's Senior Vice President for Space Systems Development, received the APSCC Lifetime Achievement Award in 2013 and an APSCC Special Award in 2008. In addition, budding engineers from the company have won the APSCC Young Talent Award in 2018 and 2019, respectively.

Arqiva Appoints Sarah Jane Crabtree as Chief People Officer

October 3, 2022 – Leading UK communications infrastructure and media services company, Arqiva, is pleased to announce the appointment of Sarah Jane Crabtree as Chief People Officer. Sarah Jane is appointed to the Arqiva Executive Committee, reporting to CEO Shuja Khan, to lead on the

company's people and culture agenda within its 'Vision 2031' strategic focus. Sarah Jane joins Arqiva following 17 years at BT, most recently as HR Director BT Organisation Effectiveness, where she was responsible for setting the BT Group people strategy and policy encompassing culture, operating model and organisation design, strategic workforce management, leadership and development, engagement and diversity and inclusion.

REPORTS

Global Maritime SATCOM Services Growth to be Boosted by Smart Shipping

October 31, 2022 – Customers' and crew members' rising demand for broadband connectivity drives many segments of the maritime industry to adopt SATCOM services, according to Frost & Sullivan's recent analysis, *Growth Opportunities in Global Maritime Satellite Communication (SATCOM) Services*. Vessel and ship digitalization, automation, and smart shipping trends further fuel the need for increased connectivity at sea. Due to this, the SATCOM market is expected to reach \$2.84 billion by 2030 from \$2.44 billion in 2021, an uptick at a compound annual growth rate (CAGR) of 1.7%.

UPCOMING EVENTS

Global MilSatCom, November 8-10, London, UK,

<https://www.smi-online.co.uk/defence/uk/conference/global-milsatcom>

Asia-Pacific Regional Space Agency Forum (APRSAF-28), November 15-18, Hanoi, Vietnam,

<https://www.aprsaf.org/>

PTC'23, January 15-18, Honolulu, USA, <https://www.ptc.org/ptc23/>

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

Space Symposium 2023, April 17-20, Colorado, USA, www.spacesymposium.org

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

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

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About APSCC

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