APSCC Monthly e-Newsletter
August 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.apscc.or.kr. To unsubscribe, send an email to info@apscc.or.kr with a title "Unsubscribe."

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

INSIDE APSCC

APSCC 2023 Satellite Conference & Exhibition (APSCC 2023), October 10-12, Sheraton Imperial Kuala Lumpur, Malaysia

APSCC Satellite Conference and Exhibition, the largest three-day annual gathering of the Asia Pacific satellite and space community, is your defining platform that brings the industry together for market insight, striking partnerships and concluding business deals. This year the APSCC 2023 Satellite Conference and Exhibition will be heading to KL, Malaysia - Reconnect, communicate, and collaborate on the industry's challenges and opportunities that lie ahead!

Register today and enjoy **Early Bird Registration Rate** at www.apsccsat.com/attend

2023 APSCC Awards: Call for Nominations

APSCC is now accepting nominations for the 2023 APSCC Awards, which will be presented at the APSCC 2023 Satellite Conference & Exhibition at the Sheraton Imperial Kuala Lumpur Hotel, Malaysia on October 10 - 12. The APSCC Awards honor those who have made invaluable contributions to the satellite and space community. See https://apsccsat.com/awards/ for more details on the 2023 APSCC Awards.

CONTEC Joins APSCC

CONTEC, founded in 2015, is a leading space company dedicated to evolutionizing satellite operations through its global network of ground stations. With a primary focus on providing ground station services, CONTEC aims to ensure seamless communication between satellites and ground-based systems. Since the official launch of its services in 2019, marked by the installation of Korea's first commercial ground station in Jeju, CONTEC has rapidly gained recognition as a trusted partner for major satellite operators. Driven by a commitment to excellence, CONTEC continues to expand its global footprint, extending its services to clients across America, Europe, Africa, and Asia. By strategically positioning its ground stations worldwide, CONTEC offers enhanced coverage and accessibility to satellite operators, enabling them to optimize their missions and effectively manage their satellite fleets. Moreover, CONTEC advanced technologies process and analyze raw satellite data, delivering high-quality processing services and valuable insights for various industries, empowering informed decision-making. Visit http://contec.kr/ for more information.

SATELLITE BUSINESS

AXESS Networks Joins Forces with ABS to Expand Satellite Coverage and Capabilities over the Middle East

July 31, 2023 – AXESS Networks (AXESS), a global leader of satellite communications, and ABS, a global satellite operator, have signed an agreement to launch a new network increasing AXESS'

Middle East coverage. The agreement provides AXESS Networks with expanded opportunities for both terrestrial and maritime clients in the region strengthening AXESS' dual-use strategy for the ABS-2A satellite. This latest development complements AXESS' existing Ku-band satellite coverage of the Middle East already bolstered by previous agreements supporting networks on the ABS-3A and ABS-2 satellites.

Intelsat and MaxIQ Space Complete Another Year of STEM-Ed in Africa

July 31, 2023 – Intelsat and MaxIQ Space, a pioneer in space-focused STEM education have now completed this year's STEM Space program with student project presentations and an awards ceremony. The innovative program, sponsored by Intelsat, has made major strides in inspiring and empowering these young participants, who are poised to be the future innovators and industry leaders of the African space sector. This year, 30 students were chosen for the program from all over the African continent. The education provided is something students say will provide them an advantage towards achieving an advanced education.

L3Harris Completes Aerojet Rocketdyne Acquisition

July 28, 2023 – L3Harris Technologies has completed its acquisition of Aerojet Rocketdyne, forming a fourth business segment at the company. L3Harris signed a definitive agreement to purchase Aerojet Rocketdyne in December 2022, emphasizing its ability to strengthen the defense industrial base, enhance competition and accelerate innovation for a critical merchant supplier of propulsion systems. The company also announced Ross Niebergall will serve as President of the Aerojet Rocketdyne segment at L3Harris. The acquisition diversifies the L3Harris portfolio, adding considerable long-cycle backlog and broad expertise that enables opportunities in missile defense systems, hypersonics and advanced rocket engines, among other areas. Aerojet Rocketdyne will be known as Aerojet Rocketdyne, an L3Harris Technologies company.

Lynk Demonstrates First-Ever Two-Way Standard Phone Voice Calls by Satellite

July 25, 2023 – Lynk Global, Inc., the world's leading sat2phone telecoms provider, today released the first-ever video of a series of two-way voice calls between standard-mobile-phones connected via satellite. The video shows multiple voice calls using standard mobile phones connected via Lynk's existing satellite-cell-towers in orbit. Charles Miller, CEO and co-founder of Lynk, stated, "Carl Sagan once remarked 'Extraordinary claims require extraordinary evidence.' The video we release today underscores Lynk's commitment to a higher standard." Miller continued, "When Lynk completed the first-ever connection from a satellite to a standard phone on Earth in March 2020, we shared video to demonstrate our results to the world. Today we are doing the same for two-way voice calls." "Today's news goes to the heart of our mission to connect everyone, everywhere," noted Tyghe Speidel, CTO and co-founder at Lynk.

Successful Entry into Service of the Multi-mission EUTELSAT 10B Satellite

July 24, 2023 – Eutelsat Communications announces the successful entry into service of the multi-mission high-capacity EUTELSAT 10B satellite at the 10°East orbital position. Responding to strong growth in demand for mobile connectivity, EUTELSAT 10B is carrying two multi-beam High-Throughput Satellite (HTS) Ku-band payloads: a payload covering the North Atlantic corridor, Europe, the Mediterranean basin, and the Middle East, offering significant throughput in the busiest air and sea traffic zones, and a second payload to extend coverage across the Atlantic Ocean, Africa, and the Indian Ocean. Firm multi-year capacity commitments are secured with several leading maritime and in-flight connectivity service providers, and discussions are well advanced with others. These partners, such as Panasonic and Intelsat, will rely on EUTELSAT 10B to provide ships and airlines with mobile connectivity services, in air and at sea, for passengers and crews. EUTELSAT 10B will also cater Eutelsat ADVANCE services, a global network of unparalleled coverage providing high-end connectivity to users beyond the range of terrestrial networks, through an innovative satellite network-as-a-service experience. EUTELSAT 10B is also carrying two widebeam payloads in C-band

and in Ku-band to ensure continuity of the video services on the EUTELSAT 10A satellite, whose operational life is scheduled to end later this year. The 10° East location that EUTELSAT 10B occupies has been operated by Eutelsat since 1987 and provides unrivalled coverage of Europe, the Middle East and Africa for video services. Historic clients such as Arqiva and Eurovision will be able to benefit from the newest resources and enhanced services at 10° East.

Iridium Launches Iridium Certus for Aviation Service, Revolutionizing Aircraft Connectivity

July 24, 2023 – Iridium Communications Inc., a leading provider of global voice and data satellite communications, today announced the introduction of its Iridium Certus® aviation commercial service, providing a secure cockpit domain with reliable voice and data capabilities. This milestone achievement marks the availability and certification of Iridium Connected® aviation solutions for commercial transport aircraft, business aviation, helicopters, private aircraft, and Uncrewed Aircraft Systems (UAS) that offer more compact, cost-effective equipment with superior coverage compared to alternative systems. Using L-band satellite frequencies that are superior for cockpit communications, Iridium Certus for aviation is an ideal complement to commercial transport passenger cabin connectivity Ka/Ku band services and can be a primary service for small-to-mid-size business jet cabins. It would also be preferred to HF/VHF for electronic flight bag (EFB), flight critical data, and passenger communications during oceanic flights.

AMN Selects Hughes JUPITER System to Expand Mobile Network Access for Consumers in Madagascar and Nigeria

July 18, 2023 – Hughes Network Systems announced that Africa Mobile Networks (AMN), which delivers services for the biggest Mobile Network Operators (MNOs) in Africa, has selected the Hughes JUPITER™ System ground platform to backhaul 2G, 3G and 4G cellular network traffic in Madagascar and Nigeria. AMN will deploy Hughes JUPITER gateways and remote terminals to connect several hundred cellular towers via satellite, enabling its operator customers to reach more subscribers in hard-to-reach areas and help bridge the digital divide in the region. The de facto standard for satellite implementations worldwide, the Hughes JUPITER System persists as the leading ground platform across the industry, meeting operator requirements with bandwidth and cost efficiencies, especially when compared with other satellite ground systems. The latest JUPITER technology incorporates software-defined satellite networking, dynamic inroute reconfiguration for the highest possible efficiency, and a new "system on a chip" in every user terminal that can support increasingly high speeds and a variety of services.

MEASAT Launches KampungDigital365.com Initiative with Parcel365 to Drive Rural Digital Economy

July 15, 2023 – Malaysia's Rural Broadband Service Provider has partnered with Parcel365 Sdn Bhd and M2B Services Sdn Bhd (collectively "Parcel365") to launch the KampungDigital365.com initiative to uplift rural communities through digital economy activities. In the longer term, the KampungDigital365.com initiative promotes the development of rural industries and value-added supply chains, channelling high quality local and agricultural products to consumers, opening access to new markets and expanding digital presence for local brands. Also in the works is a digital payment platform for KampungDigital365.com participants, which will enable them to utilise ePayment technology and record keeping that offer convenience, security, speed and accessibility. Keeping KampungDigital365.com connected The KampungDigital365.com initiative is powered by MEASAT's CONNECTme NOW high-speed satellite broadband WiFi Hotspot service, which supports all digital applications and online services including transactions, communications, training and other use cases. The collaboration between MEASAT and Parcel365 enhances digital inclusivity among rural communities with the CONNECTme NOW agent serving as the local KampungDigital365.com programme operator. With CONNECTme NOW currently covering nearly 4,000 rural and remote sites serving 500,000 Rakyat nationwide, including 426 sites in Kampung Orang Asli3, many Malaysians in rural areas are poised to benefit from more efficient access to the digital economy.

Euroconsult Mark 40-year Milestone with Shareholder Refresh

July 11, 2023 – Leading space advisory firm, Euroconsult, has announced a major process of evolution for the group and its shareholders, as the company seeks to enable and drive forward its next decade of success via a simplified, fully integrated operational structure. Since its establishment in 1983 Euroconsult has been at the heart of the space sector, providing strategic decision-making assistance to over 1,200 clients across 60 countries to date. Its first-class consulting, market intelligence services are trusted by both government and private organizations, including the likes of ESA, NASA, CNES and JAXA. Following the firm's recent celebration of forty years in the business, it has today welcomed new investor BNP Paribas Development, who will join CEO Pacôme Révillon and the other new and existing shareholders. Meanwhile, a wider restructure will see more responsibility provided to its current management team and some legacy shareholders stepping down. The full integration of all the group's subsidiaries is set to strengthen the synergies between its various businesses, with engineering arm Satconsult moving to a wholly-owned status, in a move that the company believes will simplify operations and ensure that more value is created for customers and partners.

IEC Telecom Partners with Rivada Space Networks for Land and Maritime Connectivity

July 10, 2023 – Rivada Space Networks and IEC Telecom have announced the signing of a Memorandum of Understanding (MoU) to enable innovative connectivity solutions for land and maritime communications. For the humanitarian sector, IEC Telecom will leverage Rivada's OuterNET to provide leading NGO agencies with enhanced connectivity for the coordination of humanitarian efforts, the safety of remote workers, the security of NGO assets, and the sustainability of long-term operations. From housing and food distribution to education and medicine, all field requirements will be supported to allow humanitarian missions to expand their reach and multiply their scope of services. In addition to land connectivity services, IEC Telecom will use Rivada's OuterNET to provide enhanced ICT infrastructure for the maritime environment, further expanding digitalization at sea. IEC Telecom offers cyber-secure network solutions optimized for the maritime sector. Powered by Rivada's OuterNET, these technologies will support digital decarbonization globally by helping vessels improve onboard operations, leading to reduced fuel consumption.

Elbit Systems Awarded $114 Million Contract with Asian-Pacific Country for Long-Range Patrol Aircraft

July 10, 2023 – Elbit Systems announced today that it was awarded a contract worth approximately $114 million with an Asian-Pacific country to supply two long-range patrol aircraft (LRPA) equipped with an advanced and comprehensive mission suite. The contract will be carried out over a period of five years. The two LRPA aircraft will be based on new ATR 72-600 and Elbit Systems will integrate in each aircraft a mission suite that includes a Mission Management System, Electro-Optics, Radar, SIGINT, Communication and more.

ITU Radio Regulations Board Approves Waiver for Rivada LEO Constellation

July 5, 2023 – Rivada Space Networks announced that the ITU's Radio Regulations Board has waived the requirement that Rivada put 10% of its constellation into orbit this year. The ITU waiver process seeks clear evidence of funding, manufacturing and launch contracts as well as coordination with other systems. Having reviewed the submission made by Liechtenstein's telecommunications regulator and filing administration (the "Amt für Kommunikation"), the ITU Radio Regulations Board determined that Rivada can proceed to its second deployment milestones of placing 144 satellites (plus 6 in-orbit spares) by June 2026 and a further 144 satellites (plus 6 in-orbit spares) by September of 2026.

FCC Issues Telesat Phase II Certification of Accelerated Relocation Order

July 5, 2023 – Telesat announced that the Wireless Telecommunications Bureau of the U.S. Federal Communications Commission (FCC) has validated Telesat's Phase II certification of accelerated C-band clearing activities in the 3.7 GHz band. With this order, the FCC confirms that Telesat has

completed all requirements for relocating customers from the 3700-3820 MHz band in the contiguous U.S. along with all required Earth station equipment modifications. Telesat fulfilled the Phase II relocation requirements six months in advance of the December 2023 deadline, and is now eligible to receive its second accelerated relocation payment of nearly US$260 million, expected by October 2023. Telesat has already received its Phase I clearing payments totaling US$84.8 million.

OneWeb and Connecta Satellite Solutions Sign Distribution Partnership Agreement to Deliver OneWeb Services across US

July 5, 2023 – OneWeb, the low Earth orbit (LEO) satellite communications company, and Connecta Satellite Solutions, a leading distributor of satellite connectivity solutions to large enterprises and governments in North America, announced today that they have signed a Distribution Partnership Agreement to deliver high-speed, low-latency broadband connectivity across the United States and Caribbean territories. Under this partnership, Connecta will be selling a full suite of OneWeb-powered connectivity solutions to enterprise and government customers in these regions. These high-speed, low-latency offerings made possible by OneWeb's LEO technology will complement, enhance, and extend existing Connecta services and enable low-latency connectivity solutions. Combining OneWeb's resilient, secure, high-performance connectivity with Connecta's commitment to end-to-end service excellence will ensure that customers receive the best satellite connectivity experience coupled with the best customer service experience. The technology will open new opportunities for education, healthcare, and economic development, with the fast connection speeds and low latency of LEO satellites transforming connectivity in areas where terrestrial services are not currently available.

KSAT Selects CPI Vertex to Provide the 20m Antennas to Support Missions to the Moon

July 4, 2023 - KSAT is investing in a purpose-built commercial network for lunar communications and has selected CPI Vertex Antennentechnik GmbH, a subsidiary of Communications & Power Industries, to provide three 20m diameter antenna systems. Designed from the ground up to meet the requirements of upcoming lunar missions, these state-of-art antennas will be installed in three evenly distributed locations to ensure continuous lunar coverage. The first antenna system will be operational by end of 2025, and the full network by end of 2026. KSAT Lunar's 20m network will provide TT&C, payload downlink, and ranging services in both X-band and Ka-band. The antennas are compliant with the requirements set by planned lunar relay satellite constellations, and by NASA for the Lunar Exploration Ground Sites (LEGS). The demanding technical and performance requirements, and the need for uninterrupted lunar coverage have served as guidelines for setting the specifications to CPI Vertex.

BROADCAST

Popularity of Sports & Events Content Drives Uptake on SES's Dedicated Satellite Distribution Platform

July 19, 2023 – Live sports and news events in the last 12 months are driving uptake on SES's dedicated sports and events satellite distribution platform – ASTRA 1 Sports. Covering Europe, the Middle East and North Africa, the ASTRA 1 Sports satellite distribution platform was leveraged for more than 1,500 events delivered to hundreds of feed takers, with sports and events customers enjoying its powerful wide beam coverage with high throughput, boosted network efficiency, flexibility and security. From sports rights holders, leagues and federations to TV networks and service providers, SES distributed thousands of hours of sports, major events and significant breaking news content on ASTRA 1 Sports, including FIS Alpine World Ski Championships, the World Judo Championships, the World Padel Tour, FIA World Rallycross events and "Operation Lion" in the UK.

Ateme's Video Headend Feeds Nilesat's Latest Satellite

July 18, 2023 – Ateme, a global leader in video compression, delivery, and streaming solutions with

innovation at its core, announced that its video headed is feeding the latest satellite launched by Nilesat, one of the leading satellite service providers delivering digital television, radio, and data services across the Middle East and Africa. For the third time, Nilesat has chosen Ateme for its video headend; this time to help revolutionize Nilesat's fourth space satellite launch, Nilesat-301. This allows broader, high-quality coverage across the Middle East and Africa. In its third project with Nilesat, Ateme provided its TITAN software solutions, which were instrumental in enabling delivery of around 50 channels, including HD and UHD. Project deployment was completed in H1 2023 with the assistance of Ateme's local partner, Systems Design.

AsiaSat Selected by NTV to Broadcast Five Nepali HD Channels on AsiaSat 7

July 13, 2023 – Asia Satellite Telecommunications Co. Ltd. (AsiaSat), Asia's premier satellite solutions provider, announced that Nepal Television (NTV), Nepal's state broadcaster has selected AsiaSat 7 to distribute a bouquet of five High Definition (HD) Nepali channels to serve audiences both nationally and across Asia and Oceania. These five television channels, which are free-to air, include general entertainment channels 'NTV' and 'NTV Plus', and news channels 'NTV News', 'NTV Kohalpur' and 'NTV Itahari'. This collaboration marks a major milestone in AsiaSat's extension of broadcast services in Nepal. The high-powered coverage of AsiaSat 7 will support NTV's service expansion in the remote mountainous regions, demonstrating the power of satellite in connecting the unconnected with a variety of top-watched entertainment programmes, timely news and information. NTV can also leverage AsiaSat 7's strongest South Asian channel neighbourhood and exceptional audience access to reach out to overseas audience including millions of Nepali people working and residing across the region.

Ateme Running on AWS Selected by Swisscom for World's First Large-scale Cloud DVR in the Cloud

July 11, 2023 – Ateme, a global leader in video compression, delivery, and streaming solutions with innovation at its core, today announced that Swisscom, Switzerland's leading telecoms company and one of its leading IT companies, has chosen Ateme's end-to-end OTT solution to migrate the Cloud Digital Video Recording (CDVR) platform of its blue TV service to AWS, in a move set to mark the world's first large-scale CDVR in a public cloud. Behind this move was Swisscom's desire to streamline its operations, optimize its hardware pool, and achieve greater scalability for blue TV. Ateme's comprehensive end-to-end solution, which includes the groundbreaking NEA Genesis enabling CDVR and time-shifted TV services in the public cloud, played a pivotal role in meeting these objectives. The end-to-end package selected by Swisscom also includes Ateme's NEA packaging and CDN solutions, complementing the already deployed virtualized TITAN transcoders.

New TVRI World Channel Launches on SES's Prime TV Neighbourhoods

July 5, 2023 – TVRI, an Indonesian public broadcaster, in collaboration with PT Telkom Indonesia and its subsidiary Telkomsat, are announcing a high-definition (HD) channel, TVRI World, delivered to TV homes via SES's satellites. From 1 May 2023, the English-language TVRI World channel is broadcast across Europe via ASTRA 19.2 degrees East and the Middle East via YahSat 52.5 degrees East. As part of the agreement, SES is providing a full end-to-end service for the distribution of TVRI World, including playout services with content replacement, encoding, content delivery as well as monitoring. Based in Jakarta, TVRI World builds on TVRI's legacy of high-quality programming about Indonesia by creating a global broadcast platform with news and information for Indonesians living abroad while also promoting tourism and economic development.

STN Anounces First HD TV Patform on Intelsat's Galaxy-19 Stellite

July 5, 2023 – STN to announce the first high-definition (HD) TV platform on Intelsat's Galaxy 19 (G-19) satellite. With this HD TV platform, viewers can now indulge in this high-quality entertainment experience from the comfort of their homes. The G-19 satellite, known for its robust coverage, is the perfect free-to-air platform to deliver multicultural and multilingual content to millions of households in North America. In addition to this exciting HD platform launch, STN proudly introduces its unique

Electronic Program Guide (EPG) with a user-friendly interface system that allows viewers to effortlessly explore channel lists and find their favorite programs easily on their home TV screen, giving an enhanced viewing experience. North America has long been a hub for a diverse group of communities who are seeking content from back home and G-19 has historically been the platform of choice. G-19 is the largest, and only, independent free-to-air direct-to-home TV and radio community in North America, specializing in multicultural, native-language content. Whether it's news, sports, movies, or religious programming, audiences can find content from over 170 channels originating from 24 Countries in 15+ languages. With STN services & Intelsat's coverage, this diverse content for audiences is finally available in HD with the added advantage of EPG.

LAUNCH / SPACE

PSLV-C56/DS-SAR Mission Accomplished Successfully

July 30, 2023 – PSLV-C56 vehicle launched all seven satellites precisely into their intended orbits The launch of PSLV-C56 carrying DS-SAR satellite, along with 6 co-passengers from the first launch-pad of SDSC-SHAR, Sriharikota is accomplished successfully on July 30, 2023 at 06:30 hrs IST. PSLV-C56 is configured in its core-alone mode, similar to that of C55. It would launch DS-SAR, a 360 kg satellite into a Near-equatorial Orbit (NEO) at 5 degrees inclination and 535 km altitude. The DS-SAR satellite is developed under a partnership between DSTA (representing the Government of Singapore) and ST Engineering. Once deployed and operational, it will be used to support the satellite imagery requirements of various agencies within the Government of Singapore. ST Engineering will use it for multi-modal and higher responsiveness imagery and geospatial services for their commercial customers.

Hughes JUPITER 3 Satellite Successfully Launches, Heralds the Start of a New Era of Connectivity

July 29, 2023 – Hughes Network Systems, an EchoStar company, today announced its JUPITER™ 3 ultra high-density satellite has successfully launched on a SpaceX Falcon Heavy rocket from historic Kennedy Space Center Launch Pad 39A in Florida. Also known as EchoStar XXIV, JUPITER 3 was built by Maxar Technologies in Palo Alto, CA, and is engineered to deliver gigabytes of connectivity to customers across North and South America. On July 29 at 2:32 a.m. EDT, three hours and twenty-eight minutes after lift-off, JUPITER 3 successfully deployed from the launch vehicle. The satellite began sending and receiving its first signals, and engineers deployed the JUPITER 3 solar arrays, which unfolded in space to their full ten-story span. With JUPITER 3, Hughes will enhance its HughesNet® offerings for customers in the U.S. and Latin America with more broadband capacity overall and higher speed plans in many markets – some with download speeds up to 100 Mbps. The company will also offer higher speed HughesNet Fusion® plans, the innovative low-latency home internet that leverages multipath technology to blend satellite and wireless technologies seamlessly into a low-latency satellite internet experience. With dense, high-throughput capacity across the Americas, JUPITER 3 will also support applications such as in-flight Wi-Fi, enterprise networking and cellular backhaul for mobile network operators (MNOs).

Maxar's Largest Ever Satellite, Hughes Jupiter 3, Performing Well after Launch

July 29, 2023 – Maxar Technologies, provider of comprehensive space solutions and secure, precise, geospatial intelligence, today announced that the largest commercial communications satellite ever built, the JUPITER™ 3 satellite for Hughes, an EchoStar company, is performing as expected after launch yesterday. The spacecraft was manufactured by Maxar in Palo Alto, California, and launched on a SpaceX Falcon Heavy rocket from Kennedy Space Center in Florida. Shortly after liftoff, the satellite, which is also called EchoStar XXIV, deployed its solar arrays and began receiving and sending signals. The 14 solar panels on board when fully deployed could span a 10-story building. JUPITER 3 is an ultra high-density, high-capacity and high-throughput satellite that will join the Hughes JUPITER fleet, which includes four other Maxar-built spacecraft. The new satellite features customized architecture based on a broad range of technology advances, including industry-first Q- and V-band

gateway feeder links, the miniaturization of electronics, solid state amplifiers and highly efficient spot beam antenna designs.

Blue Origin Awarded NASA Partnership to Turn Lunar Regolith into Solar-Power Systems on the Moon

July 25, 2023 – NASA awarded Blue Origin a $35 million Tipping Point partnership today to continue advancing its innovative Blue Alchemist breakthrough revealed earlier this year. Blue Alchemist is a proposed end-to-end, scalable, autonomous, and commercial solution that produces solar cells from lunar regolith, which is the dust and crushed rock abundant on the surface of the Moon. Based on a process called molten regolith electrolysis, the breakthrough would bootstrap unlimited electricity and power transmission cables anywhere on the surface of the Moon. This process also produces oxygen as a useful byproduct for propulsion and life support. According to NASA, a technology like Blue Alchemist is considered at a Tipping Point if the agency's investment can help grow the innovation into a viable commercial solution. Today's investment will result in a demonstration of autonomous operation in a simulated lunar environment by 2026.

Spire Global Awarded €16 Million ESA Contract to Design and Demonstrate Satellite-Based Aviation Surveillance System

July 25, 2023 – The European Space Agency (ESA) has awarded Spire Global, Inc., a global provider of space-based data, analytics and space services, a €16 million phased contract for the EURIALO project, which will develop the preliminary design and demonstrator for a global space-based independent aircraft surveillance system. The project framework is part of ESA's programme of Advanced Research in Telecommunications Systems (ARTES) in its Directorate of Connectivity and Secure Communications. The EURIALO project intends to design and demonstrate the viability of a novel system that uses a satellite constellation to track aircraft by determining their exact position based on different times of arrivals of radio frequency (RF) signals, a technology known in the aviation industry as multilateration (MLAT). Spire will develop the mission and system design for a satellite constellation in low Earth orbit (LEO) and then design, deploy and operate a demonstrator mission that proves the performance of the system and its critical technologies. Following the initial design and demonstrator phases, there is a potential opportunity to be selected to build out the full constellation, which would foresee a large number of satellites. The Company will lead a consortium of major industry players for the contract, including ESSP (European Satellite Services Provider), a leading space-based Communication, Navigation and Surveillance (CNS) services provider.

Astro Digital Embraces Responsible Satellite Operations with Astroscale's Simple and Innovative Docking Plate Integration

July 24, 2023 – Astroscale, the global leader in on-orbit servicing, today announced a new partnership with Astro Digital US Inc., a global provider of complete space-based systems and mission support. This partnership will see Astroscale's Generation 2 Docking Plate incorporated into Astro Digital's modular satellite bus for end-of-life servicing preparation, in a move towards responsible satellite operations. Establishing industry standards for end-of-life and other servicing preparations, Astroscale's Gen 2 Docking Plate sets a new benchmark for on-orbit servicing and promises to usher in a new era of responsible, sustainable and smart satellite operations in space, aligning with international best practices and guidelines. Astro Digital is set to receive its first Astroscale Docking Plate for integration later this year, with launch expected in Q4 CY 2024.

Maxar Completes CDR for First Maxar 300™ Platform Developed for the SDA

July 24, 2023 – Maxar Technologies completed the first Critical Design Review (CDR) of the Maxar 300™ series bus for L3Harris Technologies in support of the Space Development Agency (SDA)'s Tranche 1 Tracking Layer (T1TRK) program. The T1TRK program is designed to provide global warning and tracking of conventional and advanced missile threats, including hypersonic missile systems. Maxar's inaugural Maxar 300 series bus is designed for eight or more space vehicles per launch while

delivering the demanding low jitter and high power required for the missile defense mission. The comprehensive review examined all the principal elements of the new system, including structural design, power, attitude control and command and data handling. Maxar will build 16 platforms for the T1TRK program, each about the width of a conventional oven. Those dimensions help the SDA achieve its goals to significantly reduce size, weight, power and cost compared to traditional missile detection satellites. The SDA mission will also adapt and extend Maxar's deep commercial communications satellite experience for new uses. Designed, engineered and built in-house in California, the Maxar 300 buses are modular platforms that benefit from the company's decades of experience building more than 90 spacecraft for low Earth orbit. Both the platform and Maxar's production capacity are scalable, with the ability to address multiple missions with flexible production rates that meet delivery timelines.

Thales Alenia Space Confirms its Key Role in Galileo 2nd Generation (G2G) Program

July 20, 2023 – Thales Alenia Space has signed with the European Space Agency (ESA), acting in the name and on behalf of the EU Agency for the Space Programme (EUSPA) and the European Union represented by the European Commission, more than 300 M€ global amount contracts to design and build with its European consortium the Galileo Second Generation (G2G) Ground Mission Segment and execute System Engineering Activities. These contracts, in which Leonardo and Telespazio are also involved, will provide to ESA the delivery of the Ground Mission Segment infrastructure for the 2nd Generation of Galileo Satellites constellation as well as System Engineering and Technical Assistance (SETA).

Fleet Space Technologies Continues Global Expansion with First Acquisition of European Frequency Assets

July 20, 2023 – Fleet Space Technologies has expanded its global footprint with its acquisition of rights to new long-term frequency filings in Europe. In its first commercial venture on the continent, Fleet has purchased the frequency of assets of a Luxembourg-based company, giving it effective operational control over an existing frequency filing, adding to its already substantial holding of these mission-critical assets. A filing provides a claim over spectrum and orbital resources for satellite networks with the International Telecommunication Union (ITU), a specialised agency of the United Nations (UN). Fleet's newly acquired filing rights have good seniority which means they take priority over those submitted more recently. The filings have been brought into use, so Fleet will be able to utilise the new frequencies indefinitely as long as it maintains a satellite in orbit capable of using them.

Wind River VxWorks Serves as Software Foundation for Astroscale Sustainable Space Systems

July 19, 2023 – Wind River®, a global leader in delivering software for mission-critical intelligent systems, today announced that VxWorks® is used in the On-Board Computer (OBC) to command the Astroscale ELSA-M Servicer spacecraft. Astroscale develops innovative solutions to create sustainable space systems and mitigate the growing and hazardous buildup of debris in space. Astroscale's End-of-Life service line (ELSA-M) provides a space debris solution to safely and responsibly capture and retire multiple satellites in one mission. The OBC will support the rendezvous between Astroscale's servicer spacecraft and the client satellite. Astroscale's software applications on VxWorks are responsible for the computer vision processing for the computer system that will command ELSA-M. A high level of precision is needed for robotic operations, including maneuvers during rendezvous between the ELSA-M servicer and retired satellites. An in-orbit demonstration (IOD) mission to capture an inactive satellite is anticipated to launch in 2025. This will be the first time a commercial active debris removal (ADR) satellite will complete the end-to-end operations of a removal service with a full-sized and fully representative client satellite. The mission is part of Astroscale's partnership with OneWeb and the European Space Agency (ESA).

Space Flight Laboratory (SFL) Announces Launch and Deployment of Telesat LEO 3 Microsatellite
July 18, 2023 – Space Flight Laboratory (SFL) today announced the launch and orbital deployment of the Telesat LEO 3 demonstration microsatellite at 1:27 UTC, July 18. Carried into orbit from New Zealand by the Rocket Lab Electron launch vehicle, LEO 3 is the 13th successful deployment of an SFL-developed microspace mission in 2023. Ground control established communications with LEO 3 shortly after launch, confirmed SFL. Having achieved signal acquisition, solar arrays deployment, and successfully passing initial satellite health tests, SFL and Telesat are now testing the full satellite. SFL built the compact 30-kg LEO 3 spacecraft on its space-proven DEFIANT microsatellite bus for Telesat of Ottawa, Ontario – one of the world's largest and most innovative satellite operators. Once operational, LEO 3 will provide continuity for customer and ecosystem vendor testing campaigns following decommissioning of Telesat's Phase 1 LEO satellite.

Rocket Lab Deploys Satellites for NASA and Commercial Constellation Operators, Successfully Recovers Booster
July 17, 2023 – Rocket Lab USA, a leading launch and space systems company, successfully launched seven satellites for NASA, Space Flight Laboratory and Spire Global from Launch Complex 1 in New Zealand today at 13:27 NZST (01:27 UTC). The Baby Come Back mission was Rocket Lab's seventh launch for the year and the Company's 39th Electron launch overall. In addition to delivering a flawless primary mission of deploying customer satellites to orbit, Rocket Lab completed a successful ocean splashdown and recovery of Electron's first stage as part of the Company's program to make Electron the world's first reusable small rocket.

Rocket Lab Signs Multi-Launch Deal to Further Deploy Synspective Constellation
July 13, 2023 – Rocket Lab USA, Inc. announced it has signed a deal with Japanese Earth imaging company Synspective to launch two dedicated Electron missions. The new missions bring the total number of Electron launches contracted by Synspective to six. Rocket Lab has been launching for Synspective since 2020 when the Company deployed the first satellite in Synspective's synthetic aperture radar (SAR) constellation, which is designed to deliver imagery that can detect millimetre-level changes to the Earth's surface from space. Since that first mission, Rocket Lab has been the sole launch provider for Synspective's StriX constellation to date, successfully deploying three StriX satellites across three dedicated Electron launches. Including the two new missions, Rocket Lab is now scheduled to launch three missions for Synspective beginning in late 2023 from Launch Complex 1 in New Zealand.

Astranis & Orbits Corp to Launch the First-ever Internet Satellite Dedicated to the Philippines
July 11, 2023 – Astranis announced that it is partnering with Orbits Corp to bring the Philippines their first-ever dedicated internet satellite. The satellite will provide sufficient bandwidth to connect up to two million people across 5,000 remote and rural communities in the Philippines. Orbits Corp is a satellite services provider and the sister company of a local Philippine ISP, HTechCorp, which has over 20 years of experience in providing internet services to the 7,000+ islands of the Philippines. Led by former legislator Atty Augusto Baculio, Orbits Corp's mission is to connect unconnected regions, providing them with the tools necessary to thrive in the Digital Age. This Astranis satellite will be the first internet satellite ever dedicated to the Philippines, a nation that is uniquely challenging to cover with traditional connectivity solutions like fiber, microwave, and large satellite systems. Over 20 typhoons in the Philippines each year, and other natural disasters, challenge the Filipino people and prove the importance of resilient connectivity infrastructure.

Maxar Previews Its New Maxar® Geospatial Platform at Esri User Conference
July 10, 2023 – Maxar Technologies announced the initial release of its new Maxar Geospatial Platform (MGP), enabling fast and easy access to the world's most advanced Earth intelligence. MGP will simplify the discovery, purchasing and integration of geospatial data and analytics. MGP users will have access to Maxar's industry-leading geospatial content, including high-resolution satellite imagery,

stunning imagery basemaps, 3D models, analysis-ready data, and image-based change detection and analytic outputs.

Voyager Space Signs MoU with ISRO and IN-SPACe to Explore Utilization of Gaganyaan Spacecraft for the Starlab Space Station

July 10, 2023 – Voyager Space (Voyager), a global leader in space exploration, is pleased to announce the signing of a MoU with the Indian Space Research Organization (ISRO) Department of Space and the Indian National Space Promotion and Authorization Center (IN-SPACe) to explore opportunities for the utilization of ISRO's Gaganyaan crewed spacecraft to service Starlab, a first-of-its-kind, continuously crewed, free-flying space station. The objective is to jointly study the potential use of ISRO's Gaganyaan spacecraft to provide crewed flights to the Starlab station. Furthermore, Voyager and IN-SPACe will seek additional collaboration opportunities with various stakeholders within the Indian space ecosystem, including research institutions, commercial entities, and government agencies. This collaboration helps propel both Voyager Space and the Indian space ecosystem towards new horizons of exploration and technological advancements.

Orbex Expands Facilities in Preparation for UK Mainland's First Vertical Rocket Launch

July 10, 2023 – UK-based spaceflight company, Orbex, has extended its footprint by over thirty percent across its Scottish and Danish design and production facilities, in preparation for the launch of its Prime rocket. The company is adding an extra 1,500 square metres of factory and office space to its existing 4,750 square metre estate in Forres, Scotland and Copenhagen, Denmark. The additional space will increase the company's launch vehicle production and propulsion system manufacturing capacity and add an extra software laboratory and an avionics clean room space with ISO 8 and ISO 9 sections. The additional capacity in Forres is just 3km from its test site at Kinloss, allowing for quick turnaround between the two sites, as Orbex ramps up its testing in the countdown to launch. Orbex Prime became the first full orbital microlauncher rocket to be unveiled in Europe in May 2022. Prime is a 19-metre long rocket designed to launch small satellites into polar and sun-synchronous orbits. Orbex has already announced several commercial launch contracts with satellite manufacturers.

Voyager Space Signs MoU with NewSpace India Limited to Explore Collaborative Opportunities in Space Technology

July 7, 2023 – Voyager Space announced the signing of a Memorandum of Understanding (MOU) with NewSpace India Limited (NSIL), the commercial arm of the Indian Space Research Organization (ISRO), to foster collaboration in spacecraft launch and deployment opportunities on-board NSIL's Small Satellite Launch Vehicle (SSLV) and Polar Satellite Launch Vehicle (PSLV). Under this MOU, Voyager Space and NSIL will explore launch and deployment opportunities for small satellites orbited by SSLV and PSLV. The two organizations will also study the use of space qualified components from NSIL in support of spacecraft manufacturing, deployment, operations, and other areas of interest. ISRO's state-of-the-art launch infrastructure and NSIL's experience in delivering payloads to orbit expands access to space for Voyager's global customer base. Voyager Space has previously flown customer satellites on two PSLV missions.

Sidus Space and Lulav Space Partner to Launch Event-Based Star Tracker on June SpaceX Mission

July 6, 2023 – Sidus Space, a multi-faceted Space and Defense-as-a-Service satellite company, today announced it has partnered with Lulav Space, a robotics company specializing in space applications ("Lulav"), to research, develop and demonstrate the benefits of Event-based Star Trackers (EBST). Sidus plans to include the Lulav/Sidus EBST on its fourth planned LizzieSat mission, currently scheduled to launch with SpaceX in June of next year. This contract is part of the previously announced Space Florida award under the Florida-Israel Innovation Partnership. In addition to their lower size, weight and power (low SWaP), event-based cameras have been widely recognized to have exceptional performance at high angular rates compared to traditional camera sensors. Star Trackers capture and analyze star images to accurately determine satellite orientation in space; however,

utilizing traditional camera sensors, they can only operate at low angular rates, limiting satellite performance and robustness. This project will combine Lulav's expertise in vision-based space applications with Sidus' satellite development, deployment, and operations expertise, to develop and test in-orbit the first commercial EBST, a star tracker utilizing an event-based camera.

ATLAS Space Operations Launches Freedom Space™ to Support Critical Government Missions

July 6, 2023 – ATLAS Space Operations, the leading Ground Software as a Service™ announced the launch of its wholly-owned subsidiary, Freedom Space Technologies™ (DBA Freedom Space™). Headquartered in Colorado Springs, CO, this new venture is a deliberate move by ATLAS Space Operations to provide solutions that support the success of government missions and advance the capabilities of the space industry. Due to the growing government's stated need to take advantage of commercial space capabilities, Freedom Space is purpose built to support unique requirements, including classified missions, of the United States Department of Defense and the National Security Space organizations. By providing innovative and reliable ground-based satellite communications solutions, Freedom Space will play a vital role in enabling government entities to achieve their strategic objectives and ensure mission success. Leveraging the heritage of ATLAS Space Operations' Freedom Ground Software as a Service and its federated global ground network, Freedom Space will offer mission solutions, products, and services. Freedom Space will ensure the highest level of data security, reliability, and responsiveness for government agencies. Furthermore, Freedom Space will work closely with government agencies to develop strategic partnerships to drive innovation and address emerging challenges in the space domain.

A Franco-German Success for the Final Ariane 5 Mission

July 5, 2023 – On July 5, 2023 at 7:00 p.m. local time, Ariane 5, operated by Arianespace, lifted off flawlessly from Europe's spaceport in Kourou, French Guiana, carrying Heinrich-Hertz-Satellite for the German government and SYRACUSE 4B for the French Ministry of Defence. The Heinrich-Hertz-Mission is the first dedicated German telecommunications satellite-based mission that will be used to conduct research and to test new technologies and telecommunications scenarios. The mission is managed by the German Space Agency on behalf of the German Federal Ministry for Economic Affairs and Climate Action (BMWK) and with the participation of the German Federal Ministry of Defence (BMVg). The Heinrich-Hertz-Satellit was mainly developed and built by OHB System. The SYRACUSE 4B satellite is part of the SYRACUSE IV program carried out under the leadership of the DGA in collaboration with the French Air and Space Force, and for the Space Command (CdE). Airbus Defence and Space and Thales Alenia Space joined forces to develop the SYRACUSE 4A and SYRACUSE 4B satellites so that the program could benefit fully from their combined expertise. This launch also marks the end of the remarkable career of the HM7 upper stage engine, which flew on the first Ariane 1 and on the final Ariane 5. It helped power Ariane launchers 228 times, without ever failing. This veteran of spaceflight has been a crucial element in the European space adventure. It will be replaced on Ariane 6 by the re-ignitable Vinci engine.

Thales Alenia Space Creates Space Business Catalyst, the First Industry Accelerator Dedicated to Space

July 4, 2023 – Thales Alenia Space announces the creation of the Space Business Catalyst, a unique industry accelerator dedicated to the space sector to coincide with the Assises du New Space opening in Paris on July 5. The Space Business Catalyst is a first and is designed to explore, create and secure the conditions needed for the emergence of new players in the space sector by supporting the development of disruptive projects. As an industry accelerator, the Space Business Catalyst supports intrapreneurs and startups during their early growth phase and helps them define and implement their industrial scale-up strategies. This agile structure facilitates the emergence of solutions likely to generate a genuine market dynamic, technological breakthroughs and new avenues of development for existing solutions. The Space Business Catalyst is fully in line with the ethos of the Assises du New Space forum in Paris, which takes place on July 5 and 6. This event is a chance for French space

organizations to discuss and build around the challenges and opportunities ahead in space. The strategic, high-impact space sector is now more accessible, offering a host of technological and business opportunities for all stakeholders.

Euclid European Scientific Satellite Successfully Launched

July 1, 2023 – Thales Alenia Space is the prime contractor for the European scientific satellite Euclid that has been successfully launched to explore dark energy and the mysteries of dark matter, thus contributing to understand some of the secrets of the universe. Euclid is the technological gem in the ambitious scientific missions of the European Space Agency (ESA) with the contribution of many national space agencies, including ASI, CNES and UKSA - the Italian, French and UK Space Agencies. It was successfully launched atop a SpaceX Falcon 9 vehicle from Cape Canaveral in Florida. During its six-year mission, Euclid will map the large-scale structure of the universe out to a distance of more than 10 billion light-years to show how it has expanded and how its structure has evolved over the last three-quarters of its history.

EXECUTIVE MOVES

Astroscale Holdings Strengthens Global Board of Directors with Three Experienced Leaders

July 27, 2023 – Astroscale Holdings Inc., the market leader in satellite servicing and long-term sustainability across all orbits, has announced the appointment of three distinguished professionals to the Astroscale Board of Directors. Joining as new External Directors are Gayle Sheppard, Chief Executive Officer of Bright Machines, a prominent software and data led factory automation and production platform company, and Erica Newland, formerly the Chief Financial Officer of Baraja, a global LiDAR sensor technology start-up. Nobuhiro “Matsu” Matsuyama, Chief Financial Officer of Astroscale since November 2021, has joined as an Internal Director. These three new Directors bring invaluable levels of expertise and experience that will further strengthen Astroscale’s financial position, sharpen its strategic vision and accelerate its drive for innovation in space sustainability.

Sidus Space Appoints Jessica Curry as Senior Vice President of Supply Chain

July 11, 2023 – Sidus Space, a multi-faceted Space and Defense-as-a-Service satellite company, today announced the appointment of Jessica Curry as Senior Vice President of Supply Chain. With over 20 years of experience in the aerospace sector, Ms. Curry brings a wealth of knowledge and expertise to her new role. Prior to joining Sidus Space, Ms. Curry served as the Senior Manager for Subcontracts and Procurement teams within Blue Origin's Supply Chain organization. During her tenure, she oversaw the procurement of critical parts across all business units, managed agreements with government entities, and managed the team responsible for awarding subcontracts to support NASA’s Sustaining Lunar Development contract.

ATLAS Space Operations Welcomes John Williams as New CEO

July 5, 2023 – ATLAS Space Operations, the leading Ground Software as a Service™ provider, is pleased to announce John Williams as its new Chief Executive Officer (CEO). With a career spanning the United States Air Force and several prominent industry roles, Williams brings a wealth of knowledge and expertise to the space industry. Prior to joining ATLAS, John served as the Vice President of Real-Time Earth at Viasat, where he led the development of the Ground-Station-as-a-Service business line. With a focus on innovation and strategic vision, Williams has successfully held leadership positions at other renowned organizations including Booz Allen Hamilton, ATK Space Systems, and Universal Space Network (now SSC). Combined with his diverse 21-year Air Force officer career in roles ranging from operations, acquisition, budgeting, strategic planning, and command, ATLAS expects to thrive under his leadership.

XipLink Appoints Sasmith Reddi as SVP of Marketing
July 4, 2023 – Sasmith Reddi has re-joined the XipLink team as Senior Vice President of Marketing. As a member of the senior management team, he will also participate in the strategic direction for the company while leading a cohesive strategy into multi-orbit hybrid network software and services. XipLink is already an established leader in satellite-based bonding technology while aggregating several link types including cellular, terrestrial microwave and the emerging Starlink and OneWeb LEO constellations.

Dr. Matteo Genna Joins Fleet Space Technologies as CTO
July 1, 2023 – Fleet Space is delighted to announce the appointment of Dr Matteo Genna as its new Chief Technology Officer (CTO). Matteo has been building space and near-space systems for almost 30 years. After gaining his PhD in Physics from University of California, Berkeley, he joined Palo Alto-based SSL (now part of Maxar), where he led teams designing and building high-power GEO communication satellites, LEO imaging satellites and interplanetary spacecraft and systems. Prior to joining Fleet, he headed the Remote Sensing business unit at World View Enterprises, building High Altitude Platforms Systems (HAPS) designed to image and measure the Earth from the stratosphere.

UPCOMING EVENTS

World Satellite Business Week, September 11-15, Paris, France, https://wsbw.com/

The World Satellite Business Week (WSBW) and its subsequent, the Summit for Satellite Financing and Earth Observation Business, will take place from **September 11-15, 2023**, at the Westin Paris – Vendôme Hotel. WSBW is a leading global business space event, which gathers more than 1,500 business leaders and more than 230 executive-level speakers. ***APSCC members can register at the discounted rate of 30%: https://na.eventscloud.com/725950?discountcode=WSBW23APSCC***

IBC 2023, September 15-18, 2023, Amsterdam, https://show.ibc.org/

APSCC 2023, October 10-12, Kuala Lumpur, Malaysia, https://apsccsat.com/

Satellite Innovation 2023, October 17-18, Silicon Valley, CA, USA
https://2023.satelliteinnovation.com/

OTT SUMMIT, December 8, Singapore, https://ottsummit.asia/

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About APSCC

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