APSCC Monthly e-Newsletter
AUGUST 2017

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

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SATELLITE BUSINESS

Geoscience Australia Renews Life-Saving Connectivity Contracts with Speedcast
July 5, 2017 - Speedcast International Limited announced Geoscience Australia, Australia's pre-eminent public sector geoscience organization, has renewed its contract with Speedcast for life-saving connectivity applications. Speedcast provides VSAT connectivity for Geoscience Australia's seismic reading and GPS land movement applications. Australia has a substantial number of sites around the country that use the seismic reading application, which is part of the regional Asia-Pacific tsunami warning program. Speedcast provides VSAT connectivity to these life-saving operations. Similar to seismic reading, Geoscience Australia's GPS land application has many sites that use VSAT connectivity supplied by Speedcast. Geoscience Australia has a kit that is embedded in the surface of the earth that goes down to the rock layer to track land movements around the country. Speedcast utilizes two satellites and two landing stations to ensure high availability for data transmission to Geoscience Australia's head office. The bandwidth for all sites is distributed via the iDirect platform. This combines with the 24/7 support of Speedcast's Network Operations Centre in Adelaide to provide the highest reliability.

VT iDirect Enlists MASTER to Support Brazil Customers
July 5, 2017 - VT iDirect, Inc. (iDirect), a world leader in satellite-based IP communications technology and a company of Vision Technologies Systems, Inc. (VT Systems), announced that MASTER, a main provider in Brazil for specialized services and integrated solutions for communications via satellite, has been selected as an authorized distributor of iDirect products and will provide localized support to iDirect partners throughout Brazil. With this partnership, iDirect customers will be able to receive new products and aftermarket services more effectively. Based in Sao Paulo, MASTER will carry a full portfolio of iDirect remotes and ODUs (Outdoor Units), as well as provide expedited fulfillment, installation and support of satellite services and solutions.

LeoSat Opens European Office in The Hague
July 10, 2017 - Satellite data communications company LeoSat has established its first European office in The Hague with the assistance of the Netherlands Foreign Investment Agency and the WestHolland Foreign Investment Agency. Headquartered in Washington DC, the young but growing company provides a new connectivity solution for the continuing increase in global data traffic. In 2019, the company aims to launch a low-earth-orbit satellite constellation to provide the first commercially available enterprise grade global data service

worldwide. It is the first time that a company is offering connectivity developed specifically for moving large amounts of data around the world with no terrestrial touchpoint.

Panasonic Partners with Hunter and Eutelsat to Boost in-Flight Connectivity Capacity over Canada

July 10, 2017 - Panasonic Avionics Corporation, Hunter Communications and Eutelsat Americas announced the expansion of their multi-transponder contract on the EUTELSAT 115 West B satellite. Since the all-electric satellite entered into service in October 2015, Panasonic Avionics has been using the North American beam of EUTELSAT 115 West B through its arrangement with Hunter to provide its customers with connectivity for domestic flights inside Canada, from Newfoundland to the Yukon. The additional capacity helps Panasonic address the growing demand from its customers on these routes. Key to Panasonic's selection of EUTELSAT 115 West B was the satellite's outstanding performance, which comes from the beam having the highest power levels compared to alternatives, and effective 4 degree spacing for most of Canada. This extra spacing allows for exceptional speed and cost performance, rivaling High Throughput Satellite (HTS) spotbeams.

Intelsat, BCom and Newtec Launch IntelsatOne Mobile Reach Solar 2G Service in Sub-Saharan Africa

July 11, 2017 - Intelsat S.A. announced a managed services solution that will provide 2G services in remote locations. The solution leverages contributions of services provider BCom and technology provider Newtec for core components of the solution. IntelsatOne Mobile Reach Solar 2G is a turnkey package designed for mobile network operators (MNOs) seeking to expand voice services in a simple, cost-efficient manner to remote populations throughout sub-Saharan Africa. The solution includes all satellite, cellular and power components, allowing MNOs to deploy and connect with their subscribers virtually anywhere. The managed service, which will be marketed by Intelsat initially in the sub-Saharan Africa region, integrates satellite services from Intelsat's globalized network with Newtec's advanced Newtec Dialog® multiservice platform, and BCom's backhaul terminal solution and network deployment expertise. Through this partnership, IntelsatOne Mobile Reach Solar 2G delivers a product that can be rapidly deployed and is easily scalable to serve regions and populations of all sizes.

ORBCOMM and MCN to Offer IDP Service in China

July 11, 2017 - ORBCOMM Inc. has signed an agreement with Beijing Marine Communication Navigation Company (MCN), the premier supplier of Inmarsat mobile satellite services in China, to provide ORBCOMM's IsatData Pro (IDP) service in China. This agreement opens China for global enterprise customers that utilize ORBCOMM's robust IDP offerings for their asset monitoring applications across a wide variety of industrial markets, such as transportation, heavy equipment, oil & gas and maritime. ORBCOMM's IDP service utilizes Inmarsat's global L-band satellite network to offer the highest payload and lowest latency of any satellite M2M service.

Imagine Communications Delivers Cloud-Native Disaster Recovery to ZEE Entertainment Enterprises

July 11, 2017 - Imagine Communications, empowering the media and entertainment industry through transformative innovation, has delivered a compact, cloud-native disaster recovery (DR) solution to leading global content company ZEE Entertainment Enterprises Limited (ZEEL). The business continuity solution utilizes the built-in redundancy capabilities of virtualized and geo-dispersed environments to provide ZEEL with improved protection of its playout operations for considerably less than the cost to build and maintain duplicate facilities. ZEEL has rolled out a state-of-the-art cloud-based business continuity solution in its DR facility in Mumbai using Imagine Communications' Versio™ playout solution and the company's D-Series™ automation solution. The backup site supports 15 ZEE channels running on Hewlett Packard Enterprise (HPE) servers across a virtual platform that mirrors the main site. Any changes made to the main system are immediately reflected on the DR system.

COMSAT Announces Cybersecurity Programs for Maritime Industry

July 11, 2017 - Following a June 16, 2017, decision by the International Maritime Organization (IMO) that requires ship owners and managers to incorporate cyber risk management into safety management systems established by the ISM Code, COMSAT announces its suite of cybersecurity solutions for the maritime industry. Recent events have underscored the need to protect fleets from harmful cyber-attacks. The new IMO requirement must be met prior to January 1, 2021. COMSAT provides enhanced security for data transmissions, to and from a ship, no matter where it is in the world, by working to detect, prevent and respond to breaches in security. It identifies patterns or anomalies that indicate data may have been compromised, and it constantly monitors and reports potentially malicious activity.

Kratos' RT Logic Awarded U.S. Government Contract to Study Enhanced SATCOM Resiliency Concepts

July 11, 2017 - Kratos Defense & Security Solutions, Inc., a leading National Security Solutions provider, announced that the U.S. Government recently awarded its RT Logic subsidiary an important Wideband Communications Architecture Study (WCAS) contract to help define the next generation resilient ground architecture for the Department of Defense (DoD). Kratos was awarded three of the study's primary tasks: 1) defining the overall ground architecture; 2) identifying flexible and efficient mechanisms to provide wideband transport including both satellite communications (SATCOM) and ground resources; and 3) determining the operations management requirements needed to facilitate system control and situational awareness.

Northrop Grumman Wins $223M Contract for Australian Defence Ground Facility

July 11, 2017 - Northrop Grumman Australia has won a $223 million contract for the acquisition, construction and support of a new satellite ground station for the Australian Defence Force. The facility will be located at the Kapooka army base just outside of Wagga Wagga, NSW. The new ground station comes under Defence project JP2008 Phase 5B2 and will work with the Wideband Global SATCOM system, a US Defense constellation in which Australia has a stake. The satellite ground station will enable deployed forces across the Pacific and Indian Ocean Region to connect to Defence's strategic information networks back in Australia.

RSCC Demonstrates Satellite Communication Systems' Capability to Transfer Data to EGAIS

July 12, 2017 - RSCC satellite communication channel successfully transmitted information to the EGAIS system during the full-scale tests of the stand simulating the operations of a retail store. Representatives of the Ministry of Communications of Russia, Federal Service for Regulation of the Alcohol Market ("Rosalkogolregulirovaniye"), and RSCC took part in full-scale tests of the stand simulating the operations of a retail store selling alcoholic beverages. During the demonstration that was held in the territory of Rosalkogolregulirovaniye, the scanner for excise stamps and online cash register were connected to the database of the Unified State Automated Information System (EGAIS) through a satellite communication channel. The tests confirmed the reliability of satellite technologies and the possibility of using them to transmit information to the EGAIS system throughout the Russian Federation.

Kratos Announces Acceptance of ASRMS by the Regulatory Authority of the Sultanate of Oman

July 13, 2017 - Kratos Defense & Security Solutions, Inc. announced that The Regulatory Authority (TRA) of the Sultanate of Oman has formally accepted the Advanced Space Radio Monitoring System (ASRMS) from Kratos. The multi-million dollar project started in late 2014 and includes ten years of long-term support services for the ASRMS system. The most advanced system of its kind, ASRMS is a unique satellite monitoring and geolocation solution specifically developed to help Satellite Frequency Regulators identify authorized and unauthorized satellite communication signals, manage the satellite spectrum used in their respective countries, and provide for improved cooperation with other telecommunications regulatory agencies.

GateHouse Telecom's GX Link Emulator Proves a Revelation at VT iDirect

July 13, 2017 - Off-air satcom test leader GateHouse Telecom A/S announces a further endorsement of its new Global Xpress Emulator (GLE) tool from the industry's leading satellite-based broadband access solutions VT iDirect. The latest endorsement follows that of Inmarsat earlier this year recommending the emulator to its partners for testing all Global Xpress (GX) applications and solutions off-air without a terminal. GateHouse Telecom is a well-established partner of the satellite communications industry. The firm is already the leading independent provider of complete embedded software within Inmarsat's BGAN system. Around 50% of the active 120,000 BGAN terminals in use today use GateHouse's software.

EL AL Israel Airlines Announces 16 Aircraft Deal with Panasonic Avionics

July 18, 2017 - EL AL Israel Airlines selected Panasonic Avionics Corporation's (Panasonic) industry-leading eX3 in-flight entertainment (IFE) system for its new fleet of 16 Boeing 787 Dreamliners. Under terms of its agreement with Panasonic, EL AL will install eX3 across nine Boeing 787-9s and seven B787-8s, with the first aircraft being delivered in August 2017. The agreement also includes a 15-year contract for the provision of system maintenance by Panasonic Technical Services, including spares, repairs and logistics, at an optimized maintenance cost. EL AL's eX3 system features an elegant industrial design across all cabin classes. Passengers will be able to view 12, 13 and 16-inch high definition monitors that deliver superior viewing angles and capacitive touch. They also feature proprietary Panasonic technology that functions like the human eye, making dark scenes more visible by improving brightness in dark areas while simultaneously eliminating white saturation. The result is superior picture performance across all media formats including movies, TV shows, games, maps and more.

Cobham Enables First Commercial User of MSAT-G3 Service

July 20, 2017 - Alpine, Texas headquartered Big Bend Telephone Company has become the first commercial user of the innovative EXPLORER MSAT-G3 system for the next generation MSAT service, which combines the power of Cobham SATCOM's Push-to-Talk technology, the Ligado Networks SkyTerra 1 satellite and ViaSat's low-latency, IP-based L-band Mobile Satellite Services network. EXPLORER MSAT-G3 is the only system in its class to provide AES-256 encrypted Push-To-Talk voice and associated data over satellite. As an innovative, new 'Comms-On-The-Move' solution, EXPLORER MSAT-G3 allows for a broad range of new, high-quality voice and data applications over a secure communications link for diverse users in the emergency services and commercial industries, including utilities and telecoms. EXPLORER MSAT-G3 extends communications coverage in the field by combining satellite links and existing cellular based networks with Land Mobile Radio (LMR). This reduces terrestrial infrastructure costs by removing the need to build and maintain radio repeater sites, while introducing significantly improved communications availability in any environment, when on the move. It is designed to cost-effectively expand and augment existing LMR Systems.

Thuraya Signs MoU with Huawei

July 18, 2017 - Thuraya Telecommunications Company signed a MoU with Huawei. Thuraya's partnership with Huawei specifically merges innovative capabilities for crisis and disaster management solutions. With over 20 years of experience in relief communications, critical communications and disaster management, Thuraya is a trusted partner in advancing applications for widespread deployment in emergency situations via satellite connectivity. The company's satellite broadband and M2M terminals, satellite phones, SatSleeve adaptors and other integrated solutions designed for critical communications give first responders and relief organizations robust connectivity options in the midst of disasters. The 'convergence' of satellite and terrestrial GSM services gives users the much-needed flexibility to control communications and related costs in disaster regions. The recent launch of Thuraya Aero enhances these capabilities by delivering constant, uninterrupted airborne satellite communication to government and relief aviation operations. Solar-powered voice, fax, internet and SMS services can also be set up via Thuraya's network to help affected communities stay connected with the rest of the world.

AsiaSat and KBZ Gateway Extend Partnership for High Speed Connectivity Services in Myanmar

July 20, 2017 - Asia Satellite Telecommunications Company Limited (AsiaSat) and KBZ Gateway Company Limited (KBZ) have extended their partnership for KBZ's expanding VSAT broadband services to clients across Myanmar. KBZ has expanded its C-band and Ku-band capacity on AsiaSat 4 and AsiaSat 7 satellites to meet the growing demands from clients in the banking and finance, oil and gas industries for faster services and more cost-efficient connectivity. Since its launch of service on AsiaSat in 2016, KBZ has successfully expanded its high-speed broadband network connecting 300 remote sites across the country for KBZ Bank's branch network connectivity and reliable 24-hour ATM service, as well as communications for remote oil and gas exploration sites. With the expanded capacity, KBZ is able to offer advanced broadband services supporting up to 100 Mbps of throughput, while serving its clients with increased speed and reliability, enabling KBZ to further expand into the hospitality sector.

SES Enhances Wi-Fi and Broadband Services via Satellite in Rural Alaska

July 20, 2017 - Alaskan internet service provider (ISP) OptimERA is leveraging SES Networks' new managed infrastructure service and a full 72MHz transponder to significantly improve broadband connectivity speed 10-fold throughout the remote port city of Unalaska, and neighboring towns and islands across Southwest Alaska. In an agreement announced by SES, OptimERA has secured capacity aboard SES's NSS-9 satellite to roll out enhanced city-wide Wi-Fi network and broadband services to meet growing business and consumer demands for faster, more reliable and affordable connectivity in the largely underserved region. SES will also provide OptimERA with a broad range of fully-managed infrastructure services, including data centre hosting services, uplink and downlink satellite services, as well as IP network services for internet connectivity, delivered using a primary SES teleport in Brewster, Washington. OptimERA will utilize scalable, tailored SES satellite capacity to extend its high-speed broadband service packages of 10Mbps to new business customers and consumers in nearby towns and villages. OptimERA is delivering 250 Mbps of capacity to the city of Unalaska.

Speedcast to Acquire UtiliSat and Create New Government Division

July 24, 2017 - Speedcast International Limited has entered into a definitive agreement to acquire UltiSat for a purchase consideration of up to USD100m, payable over 2 years and subject to the ongoing financial performance of the company. UltiSat is a leading provider of remote communications and professional services to governments, in particular the US Government, and to International Government Organizations (IGOs) and Non-Governmental Organisations (NGOs). The acquisition strengthens Speedcast's position in the Government and

NGO sectors, complementing Speedcast's government activities in Australia, Asia, Europe and Latin America. UltiSat CEO Mohammed G. Abutaleb will lead the newly-formed Government division at Speedcast that will be focused on providing communication solutions and professional services to Speedcast's and UltiSat's existing and new Government and IGO customers, as well as driving new growth in the nearly $5B market for government and military satellite communications.

Hughes Awarded U.S. Government Contract for SATCOM Communications Architecture

July 24, 2017 - Hughes Network Systems, LLC (HUGHES) announced it has been awarded a Wideband Communications Architecture Study (WCAS) contract to support the U.S. Department of Defense (DoD) plan for resilient, cost-effective satellite communications (SATCOM) capabilities. Under the contract, Hughes will investigate a wide-ranging commercial perspective on how different satellite transports can interoperate for wideband government applications. Hughes will help to create a secure and affordable WCA that can facilitate varied and redundant space and ground transports, delivering a design analysis of wide-beam, spot-beam, and on-board processing satellites, including GEO/LEO and airborne platforms. An overall goal is to expand the flexibility and interoperability of U.S. government satellite communications capabilities, allowing DoD's various applications to operate over its own satellite network as well as leveraging commercial satellites, gateways, waveforms, and terminals to increase mission assurance.

ViaSat Receives Supplemental Type Certificate for its Gen-2 In-flight Connectivity System on Boeing 737

July 25, 2017 - ViaSat Inc. announced it received Supplemental Type Certificate (STC) approval from the FAA for its second generation (Gen-2) in-flight entertainment and connectivity (IFEC) system. The certification allows ViaSat to offer internet service on Boeing 737 aircraft. The first installation of the Gen-2 equipment was certified on a Qantas 737-800 aircraft in June 2017. Achieving STC approval demonstrates the flight worthiness of ViaSat's Gen-2 Ka-band radome, antenna, entertainment software and in-cabin Wi-Fi distribution system. The Gen-2 system provides an onboard internet experience that consumers typically expect from ground-based Wi-Fi systems, with speeds that are 10 times faster than any other in-flight Wi-Fi system.

Telebras, Brazil Awards Gilat Contract of over US$11 Million

July 26, 2017 - Gilat Satellite Networks Ltd., a worldwide leader in satellite networking technology, solutions and services, announced that it received orders of USD 11.4 Million, net of local taxes, to provide state-of-the-art communication solutions and technologies for the satellite-based broadband network, to serve the Brazilian Geostationary Satellite of Defense and Strategic Communications – SGDC. The SGDC will cover all of Brazil's territory and will enable Telebras to fulfill the Brazilian Governmental National Broadband Plan public policy. The Brazilian satellite – SGDC is planned to provide fast and affordable broadband communication to commercial and government entities.

Panasonic Avionics Brings Premium Entertainment and Global Connectivity to Air China

July 26, 2017 - Air China, the flag carrier and one of the major airlines of the People's Republic of China, has selected in-flight entertainment and connectivity (IFEC) solutions from Panasonic Avionics Corporation (Panasonic) for its fleet of Airbus A350 aircraft. Under the terms of the agreement, Panasonic will provide its industry-leading eX3 in-flight entertainment for 10 Air China A350 aircraft. The first of these aircraft will be delivered in December 2017. By selecting eX3, Air China will offer a unique passenger experience that includes audio and video on demand, a content library that can offer up to 300 movies, 200 TV shows, games, music, a moving map, and much more. These A350 aircraft will also offer global connectivity services, which will allow Air China passengers to keep in touch with friends, families, co-workers and current events everywhere these aircraft fly. Panasonic operates connectivity service in 210 countries, including China.

ViaSat Selected by Northrop Grumman to Deliver Next-Generation Satellite Communications Equipment for the Australian Defence Force

July 26, 2017 - ViaSat Inc. was selected by Northrop Grumman Corporation as a key partner in the delivery of a next-generation satellite communications (SATCOM) network to the Australian Defence Force (ADF). Under a program known as Joint Project 2008 Phase 5B2, a large multiphase project to deploy an integrated wideband SATCOM system for the ADF, ViaSat will provide its proven ground stations and dual-band Wideband Global SATCOM (WGS) satellite earth terminals. ViaSat has a long history of delivering SATCOM equipment globally, to customers in the United States, Canada, Europe and Australia. Most recently, ViaSat delivered a number of complete ground stations for Australia's National Broadband Network (nbn™) program. Specifically under the 5B2 Program, prime contractor Northrop Grumman will work with ViaSat to deliver a satellite ground station at

Kapooka Military Area, Wagga Wagga in New South Wales and a wideband SATCOM network management system to support home station and deployed forces.

Inmarsat and its Partner SSI-Monaco Supports New Global Environmental Study

July 28, 2017 - Inmarsat is supporting a ground-breaking new scientific study, which will examine the impact of climate change and other environmental factors on the world's marine ecosystem. The 2017-20 Monaco Explorations campaign, which is backed by the Principality of Monaco and personally supported by HSH Prince Albert II of Monaco, aims to raise awareness of the state of the world's oceans. The principality is making a travelling research platform available to a community of researchers from all over the world for a three-year circumnavigation of the oceans with the first scheduled stop being the island of Madeira in the Atlantic. Inmarsat, in partnership with Space Systems International-Monaco (SSI-Monaco), is providing its high-speed global broadband solution – Global Xpress – which will enable scientists working on Monaco Explorations - onboard the 76.6m vessel 'Yersin' - to share data, images and videos with experts around the world throughout the three-year mission.

FCC Grants Thales License for In-flight Connectivity on Ka-band Satellites

July 28, 2017 - On July 7, 2017, the U.S. Federal Communications Commission (FCC) granted Thales a blanket license authorization for operation of its airborne terminals communicating with geostationary satellites; EchoStar XVII, EchoStar XIX, AMC-15 and AMC-16. In only three month – from initial application to approval – the FCC granted Thales this license to use its terminals on all U.S. and non-U.S. registered aircraft anywhere in the network's coverage footprint for all four satellites in operation. This 15-year license is a significant milestone for the launch of Thales' FlytLIVE™ network. In addition to other notable achievements, Thales is paving the way to conclude registrations with other regulatory administrations throughout the Americas region. This license allows Thales to begin extensive network testing this year as initially projected, leading to commercial service availability in late 2017. This is the latest development to the announcements made by Thales and SES earlier this year for a set of strategic agreements with Hughes to enhance the delivery of FlytLIVE which will provide increased capacity, coverage and redundancy over the Americas. In 2016, Thales announced its initial two agreements with SES. With these agreements, Thales will offer airlines the most efficient inflight connectivity experience and will add to its network the new SES-17 satellite – uniquely designed for Aeronautical Connectivity – to be launched in 2020.

Thaicom Signs Telecom Service Deal with iSAT Africa

July 31, 2017 - Thaicom Public Company Limited has signed an agreement with iSAT Africa Ltd FZC. to provide iSAT's key customer in East Africa with fully managed satellite telecommunications services including satellite backup of its fiber network. Under the agreement, Thaicom will provide Internet Protocol (IP) connectivity via the THAICOM 6 satellite in the case of fiber network outages. The full-time, managed service will enable iSAT Africa to provide their client with a fully redundant and highly available backup solution for the provision of uninterrupted broadband services. The managed internet backbone and related services provided by Thaicom are based on a point-to-point satellite link between Thaicom's designated teleport and our customer's remote site, thus providing uninterrupted access to the network.

ViaSat to Provide Global In-flight Connectivity Services on U.S. Government Senior Leader Aircraft

July 31, 2017 - The United States Defense Information Systems Agency (DISA) extended its contract with ViaSat Inc., a global broadband services and technology company, to continue to provide senior leaders and their support staff with in-flight broadband and connectivity services on senior leader aircraft. As outlined in the original DISA contract, there are two options for extension, and the first was executed on June 1, 2017. The contract extension is part of a non-competitive firm-fixed price contract, which focuses on ViaSat providing high-quality broadband and connectivity services, via its global Ku- and Ka-band communications satellite network, to senior leader and VIP aircraft when in-flight.

Comtech EF Data Announces Heights™ Networking Platform Selected by Intelsat and Two International Banks to Expand Services across Africa

July 31, 2017 - Comtech EF Data Corp. announced that its Heights Networking Platform has been chosen to expand services for two leading international banking organizations throughout the African continent via Intelsat's wide beam and innovative Intelsat Epic^{NG} C-Band spot beam services. The platform will be leveraged by two different banks to address the increasing transaction volumes of corporate banking and mining customers, and will upgrade and complement existing Comtech EF Data solutions. Satellite hardware for this platform has been shipped and the network platform will begin operating on Intelsat 903 wide beam capacity with a seamless transition planned onto Intelsat 35e, an Intelsat Epic^{NG} High Throughput Satellite launched on July 5, 2017. The

Heights platform, supporting both star and mesh connectivity, was chosen as the best fit solution for both projects due to its ability to leverage the significant performance advantages offered by the unique high throughput Intelsat 35e C-Band spot beam solution. Each satellite network will connect offices and affiliates in over 20 countries to central headquarters in Accra, Ghana and Dakar, Sengal.

Kratos' End-to-End Network Management Solution Selected by Arabsat

July 31, 2017 - Kratos Defense & Security Solutions, Inc., a leading National Security Solutions provider, announced that the Arab Satellite Communications Organization (Arabsat) has selected Compass®, Kratos' end-to-end network management product, to support its expanding satellite fleet ground operations. Compass network monitoring and control (M&C) will help Arabsat scale its international operations by automating, and more effectively managing, the network functions of its ground operations supporting its expanding fleet. Compass will be deployed at the company's Teleports in Saudi Arabia and Tunis. Kratos will provide Arabsat with Skyminer, its big data storage and analytics engine, which will be used to archive all the data collected by Compass. Skyminer will eventually archive Arabsat's Command and Control (C2) data as well, providing Arabsat overall system awareness and analytics capability from a single consolidated archive storage system. Arabsat owns and operates eight state of-the-art satellites comprising the youngest satellite fleet with coverage across the Middle East, Europe and Africa.

Gogo's Next Generation In-flight Modem Takes Flight

July 31, 2017 - Gogo, the leading global provider of broadband connectivity products and services for aviation, announced that its next generation modem has been introduced into commercial airline service. The proprietary features of the new modem will significantly increase throughput from the satellite to end users on the aircraft. The modem is capable of delivering more than 16x the throughput of Gogo's existing modem, which offers plenty of room to support the increased capacity of next generation high-throughput satellites as they come online. The new modem includes dual channels to simultaneously support internet traffic and broadcast IPTV. It also features faster and more sophisticated processing that enables much shorter hand-offs from one satellite to the next. The new modem will be retrofitted on more than 450 aircraft on which Gogo's 2Ku or Ku systems are installed through an easy plug and play installation process. In addition, the 2Ku system installed on Gogo's backlog of more than 1400 aircraft will include the new modem.

BROADCASTING

ABS Provides Occasional Use Capacity for Broadcast Services on 2017 FIFA Confederations Cup

July 3, 2017 - ABS has signed an agreement with Prime Telecom, Brazil for occasional use (OU) capacity on the ABS-3A satellite for the 2017 FIFA Confederations Cup games for Televisión Nacional de Chile (TVN), one of the most important and traditional broadcasters in Chile. It is the 10th FIFA Confederations Cup, a football tournament organized by FIFA, held in Russia from 17 June to 2 July. The matches are being played across four cities; Saint Petersburg, Moscow, Kazan and Sochi with eight teams competing for the coveted title. ABS-3A at 3°W is one of the very few satellites with the capability to provide suitable Ku band coverage over Russia and South America in a single hop. ABS-3A offers cross-strapping capability that enables uplink from any of the four venues where the matches are taking place in Russia directly to the TVN facilities in Santiago, Chile. The capacity is being used for live transmissions of the games in high definition and for collateral transmissions from outside of the stadiums and hotels.

PCCW Global Signs Memorandum of Intention with Nilesat for Global TV Network Solution

July 3, 2017 - PCCW Global, the international operating division of HKT, has signed a Memorandum of Intention with Nilesat to deliver TV channels into and out of Egypt. As part of its collaboration with Nilesat, PCCW Global will be installing its unique Global TV Network (GTVN) solution in Nilesat facilities to ensure dynamic TV and media content are delivered cost-effectively and reliably, providing better end-user viewing experience. This new alliance will leverage the satellite and teleport services of Nilesat along with PCCW Global's renowned telecommunications and media expertise to ensure optimal GTVN delivery between Egypt and the rest of the world. This GTVN solution will also enhance Nilesat's connectivity with broadcasters across the globe, covering more than 90 countries via PCCW Global's extensive satellite network.

Yahlive Introduces Cartoon Network Arabic to MENA Viewers

July 4, 2017 - Yahlive announced it will broadcast the region's most popular children's TV channel, Cartoon Network Arabic on its MENA beam. The new deal extends the long-term partnership with Turner Broadcasting Systems (Turner) beyond the CNN flagship news channel, which has been with Yahlive since 2014. Viewers across the Middle East and North Africa (MENA) will soon be able to access popular free-to-air animated kids programs, including original Cartoon Network Studios productions, such as Ben10, The Powerpuff Girls, The Amazing World of Gumball, Adventure Time, Mansour and much more.

TOT Chooses ATEME to Deliver 4K-UHD Contribution Channels over IP

July 4, 2017 - ATEME announced that TOT (Telephone Organization of Thailand), a leading telecommunications service provider in Thailand, has deployed its Kyrion encoders and decoders to deliver nine 4K-UHD contribution channels over IP. ATEME has already been covering a large part of TOT's network, but this is the first time the company has used ATEME's 4K-UHD contribution technology to add value to its primary distribution offer. It gives TOT a distinct advantage: delivering the highest video quality at extremely low latency of 130ms. Based on the ATEME fifth generation STREAM compression engine, the Kyrion encoder/decoder provides the best baseband video quality at minimum bitrates. This solution has been designed for contribution over satellite and IP networks, with added value features such as ultra-fast-boot, ultra-low latency, and ABR output. The ATEME Kyrion offers a software-upgradable HEVC encoding option to support UHD video streaming as well as legacy MPEG2 to H264 compressions.

TeamCast Enables Terrestrial and Satellite UHDTV Phase 2 Broadcast within the 4EVER-2 Project

July 5, 2017 - TeamCast, the world-renowned leader in digital modulation technologies for Digital Terrestrial Television (DTT) and Satellite Applications, has significantly contributed to the progress of definition and validation of UHDTV-Phase 2 through the 4EVER-2 project. As a follow-on from the collaborative 4EVER Project, which worked on UHDTV Phase 1 – i.e. 4K ultra high definition images, HEVC encoding and end-to-end production, from 2012 to 2015 – the 4EVER-2 Project has aimed to explore further components relating to UHDTV Phase 2 – namely High Dynamic Range (HDR), High Frame Rate (HFR) and advanced Audio. The nine 4EVER-2 partners have worked not only in the laboratory with subjective testing, but also on real life applications, including end-to-end production of live experimental programs. The results from the project have formed significant contributions to the international UHDTV ecosystem: standardisation bodies, industrial forums, consumer and professional equipment manufacturers.

RSCC Completed Compression Equipments Upgrages at Shabolovka Technical Center in Moscow

July 6, 2017 - Russian Satellite Communications Company (RSCC) has completed compression equipment upgrades at its Shabolovka Technical Center in Moscow. The compression system is part of the RSCC's own Technology Platform, enabling the Company to provide a comprehensive service to broadcasters in a one-stop shop mode. The Platform comprises satellite capacity, radio-electronic facilities of space communication centers, a program package generation complex, and a terrestrial network. Services provided through the RSCC platform are focused primarily on media structures that distribute their content in Russia's cable television networks.

SES Video and Telekom Serbia Broadcast Radio Television of Serbia Channels

July 10, 2017 - SES, together with its long-term partner Telekom Serbia, will carry six TV channels and one radio station for Serbian public broadcaster RTS across Europe. The six RTS channels, RTS Satelit, RTS Život, RTS Drama, RTS Kolo, RTS Trezor, RTS Muzika and one radio station, Radio Beograd, will be transmitted to cable network headends in Europe and will be available to several million Serbian expats across the region via a dedicated smart card which can be integrated into the viewers' set-top box. Telekom Serbia, a Serbian telecommunications company headquartered in Belgrade, will provide all ground services including satellite uplink, encoding and scrambling, and will rely on SES's capacity on one of its ASTRA satellite positioned at 5 degrees East.

Arabsat Launches its Unique Free-to-Air DVB-S2 Platform Carrying Exclusive First Class HD Channels

July 10, 2017 - Arabsat announced the launch of its valuable Free-To-Air DVB-S2 platform. Carries, -exclusively- many premium and highly viewed HD international channels, broadcasted as Free-to-Air across the Middle East, North Africa & Europe via the superior coverage of Arabsat BADR-4, of which can be viewed with minimum receive dish size. Viewers across the Middle East, North Africa & Europe will continue to receiving an extensive offering & wide varieties of prime Free-to-Air international and regional HD channels on Arabsat hotspot at 26° East. This service is especially significant and valuable for our worldwide top brands of satellite TV channels, of which delivers cost-effective transmission platform, in parallel with developing the performance of our

broadcasting product. Arabsat viewers can enjoy the modern television broadcasting events, with our portfolio of first class exclusive channels, such as; BBC World News HD, France 24 Arabic HD, TV5 Monde Style HD, and other high definition exclusive channels showing excellent quality of picture and sound, to ensure best Free-To-Air viewing experience at homes.

RSCC Transmitted Confederations Cup 2017 Games to Latin America via Express-AM8

July 10, 2017 - From June 17 to July 2, 2017, Russia hosted the FIFA Confederations Cup. Broadcasts of the Confederations Cup games in HD format were arranged from four cities: Moscow, Sochi, St. Petersburg, and Kazan. Fans in Chile and other Latin American countries were able to watch the games of the Confederations Cup thanks to the broadcasts via the Russian Express-AM8 satellite (14° W) and mobile satellite communications stations of the Start TV and radio company. The START's mobile facilities carry two satellite transmitters with a capacity of 750 watts each, assuring good protection from any inclement changes of weather, including torrential rains and strong wind.

Eutelsat HOTBIRD Launches New HD Platform for Armenia's SHANT TV

July 12, 2017 - SHANT TV, the Armenian commercial broadcaster, announced that 15 July marks the launch of its new international multi-channel platform from the popular HOTBIRD video neighbourhood operated by Eutelsat Communications. SHANT TV has signed a multi-year contract with Eutelsat to support its new all-HD venture. Broadcasting through HOTBIRD for almost ten years, SHANT TV is scaling up to a multi-channel pay-TV offer for Armenian-speaking viewers in HOTBIRD's vast footprint that takes in Europe, the Middle East and the European part of the Russian Federation. Available exclusively in High Definition for a minimum subscription of €5 a month, the platform will feature SHANT Premium, Armenia Premium and SHANT Music. It will be available Direct-to-Home for households equipped with a dish and box as well as through cable and IP networks.

BERBERE TV Channels on Arabsat at 26° East

July 13, 2017 - Arabsat announced the joining of BERBERE TV, the window to Berber cultural world and a leading North African commercial broadcaster to the fast growing premium Satellite TV Platform "Maghreb Bouquet" on Arabsat BADR-5 Satellite. The BADR-5 Maghreb Bouquet will broadcast BERBERE TV, BERBERE JEUNESSE and BERBERE MUSIC in addition to satellite radio channels Berbère Radio and Antinéa Radio to the Maghreb communities. With this new phase of expansion on Arabsat BADR-5 Maghreb Bouquet, BERBERE TV is delivering on its vision of reaching all homes in Maghreb Countries with its culturally rich and entertaining TV & Radio programming.

Encompass Announces Long-Term, Managed Service Agreement with Viasat World

July 13, 2017 - Encompass Digital Media has entered into a long-term service agreement with Viasat World. The international entertainment company will now receive broadcast services, including playout, media management, VOD and streaming services, to support its portfolio of channels and on-demand services spanning over 50 countries. Services will be hosted out of Encompass' new facility located in Riga, Latvia. Encompass offers comprehensive managed services to Viasat World's 27 pay TV channels, including Viasat Sport, Viasat History, Viasat Nature, Viasat Explore as well as the TV1000 branded movie channels consisting of seven distinct brands: TV1000, TV1000Action, TV1000 Russian Kino, TV1000 Comedy, TV1000 Premium, TV1000 Megahit and the recently launched TV1000 World Kino. In addition to distributing full-time playout, Encompass also provides Viasat World with media management processing and the delivery of thousands of linear and VOD assets each year to multiple Eastern European platforms as well as streaming content for North American distribution.

DTC Domo Broadcast to Launch Wireless UHD Transmitter

July 13, 2017 - DTC Domo Broadcast (DTC) will launch a new, as yet unnamed, solution for transmitting wireless 4K UHD video. DTC will also show its miniature Broadcast Nano HD transmitter for the first time in Europe. Launched earlier this year, Broadcast Nano now incorporates a control panel; robust, broadcast-standard connectors; and forced cooling that provides significantly improved thermal performance. These improvements enable production teams to capture high definition POV images in, for example, referee or jockey-mounted camera situations not previously possible due to equipment size and battery run-time limitations. DTC's feature-rich camera back OBTX and multi-functioning PRORXD will also be in attendance at IBC, with added features including dual pedestal DVB-T for high bit-rate studio applications.

AsiaSat and Globecast Distribute Russian Language "RTR-Planeta Asia" on AsiaSat 5

July 14, 2017 - Asia Satellite Telecommunications Company Limited (AsiaSat) and global media solutions provider Globecast have reached an agreement to deliver "RTR-Planeta Asia" to viewers via AsiaSat 5. The deal

continues expanding the exposure of Russian-language programming available in the Asia-Pacific region. Russian television channel RTR-Planeta strengthens its reach across Asia through a new partnership with Globecast for content management services and AsiaSat for Asia's most popular international satellite TV platform. An international service owned by the Russian state television and radio broadcaster VGTRK, RTR-Planeta Asia provides cultural and prime time news, sports, movies and documentary films. The new agreement demonstrates AsiaSat 5's extensive coverage and powerful penetration across Asia and Australasia are well recognised by international broadcasters. The satellite operator is gathering momentum in further expanding its Russian TV neighborhood, serving Russian-speaking viewers residing across the Asia-Pacific region. Globecast is providing RTR-Planeta with complete distribution services to the channel via this deal, including across Asia-Pacific, Europe and North America, building upon Globecast and RTR's longstanding relationship, which began in 2003.

Joyne Selects Eutelsat for Flexible New Pay-TV Offer for Dutch Homes and Recreational Market

July 17, 2017 - Joyne, a new multi-channel TV venture for Dutch viewers and the country's recreational market, has selected the EUTELSAT 9B satellite as its platform to reach viewers in the Netherlands and across Europe. Joyne has signed a multi-year, multi-transponder contract with Eutelsat Communications and is preparing to officially launch on 24 July, using Eutelsat's Paris-Rambouillet teleport for uplink services. The new platform will begin with a diverse mix of pay and free-to-air channels with a strong accent on sport. It will feature 30 well-known Dutch and international channel brands including Fox Sports HD channels and Discovery Networks Benelux. Using the powerful pan-European beam on EUTELSAT 9B viewers will be able to receive the DTH service with Conax Contego Cam cards and dishes starting from 45cm. They will also be able to tap into content at adjacent video neighbourhoods.

Arabsat & GlobeCast Launch TRT World HD on Arabsat Free-To-Air DVB-S2 Platform

July 18, 2017 - Arabsat & GlobeCast announced the broadcast of TRT World HD on the newly launched Arabsat Free-To-Air DVB-S2 platform. TRT WORLD, international Turkish news platform, has been accessible on BADR-4 since January 2017 catering the English-speaking audience in the Middle East and North Africa (MENA) region. Arabsat DVB-S2 Platform, on Arabsat BADR-4 at 26° East, carries TRT World HD, TV5 Monde Maghreb Orient HD, TV5 Monde Style HD, France 24 Arabic HD, France 24 English HD, France 24 French HD (coming soon), BBC World News HD & Medi1-TV HD.

Imagine Communications Assists Naaptol with Expansion of Online Shopping Channels

July 19, 2017 - Imagine Communications has supplied critical infrastructure to quadruple the channel playout count at Naaptol's production and playout facility. All four channels are now running 24 hours a day, seven days a week. Home to one of the largest online retailers in India, the Naaptol facility, which now delivers content to its viewers over cable and satellite, was upgraded in close collaboration with Ideal Systems, a leading systems integration firm based in India. At the heart of the expanded centre are Nexio® servers with Nexio Farad™ high-performance online storage, giving show producers instant access to any content and allowing them to manipulate live, on-air promotions and pricing in accordance with current stock levels. The infrastructure also includes a sophisticated automated master control switcher and graphics, further increasing the ability to make instant adjustments in a dynamic environment. A Platinum™ VX router, along with additional Imagine Communications multiviewers and infrastructure products, tightly ties together the entire installation.

Thaicom Inks Transponder Service Agreement with MVI to Strengthen Lao DTH Platform

July 24, 2017 - Thaicom Public Company Limited has signed a transponder leasing agreement with MV International Company Limited (MVI), a leading Thai broadcaster and DTH platform operator, to establish a pay TV platform in Laos. Under the multi-year agreement, MVI has signed a contract for Ku-band capacity on the THAICOM 8 satellite.

30 US Pay TV Providers Testing 4K Delivery on SES's Platform

July 24, 2017 - With an additional nine TV operators joining SES's Ultra HD trials, a total of 30 US Pay TV providers, with a combined audience of more than 10 million subscribers, are now testing SES's 4K content delivery platform across their distribution networks. Among the 30 operators on SES's 4K platform, three have already initiated commercial linear Ultra HD services in subscriber homes via SES's end-to-end solution: Marquette-Adams Communications in Wisconsin, Highlands Cable Group in North Carolina, and, most recently, EPB Fiber Optics in Chattanooga, Tennessee. SES's all-in-one Ultra HD platform combines satellite distribution services, reception gear, and the world's largest 4K Ultra HD channel line-up, featuring Fashion One 4K, Travelxp

4K, 4KUNIVERSE, NASA TV UHD, INSIGHT TV, UHD1, C4K360, Funbox UHD, Nature Relaxation 4K and SES's UHD demonstration channel.

Arabsat Announces New Frequency for the Tunisian Channels

July 25, 2017 - Arabsat announces a new frequency on its satellite BADR-4 for the Tunisia Nat1, Tunisia Nat2, Hannibal TV and Al Janoubia TV to join Attasia TV and M Tunisia TV on Tunisian Channels Bouquet from ONT Arabsat BADR-4 News frequency 12,643 MHz, while Arabsat viewers are informed about the change via Arabsat's linear and non-linear media distribution network.

Eutelsat Renews Long-term Video Capacity Agreement with Digiturk

July 27, 2017 - Eutelsat Communications and Digiturk beIN MEDIA GROUP have concluded a multi-year multi-transponder agreement on the EUTELSAT 7A satellite, extending a collaboration that began in 2000 with the launch of Turkey's first pay-TV platform that is the platform of choice for TV homes in Turkey. Digiturk, Turkey's largest pay-TV operator, has confirmed it will use 17 transponders on the EUTELSAT 7A satellite to broadcast a broad array of content that includes the Turkish Football Super League and the Tahincioglu Basketball Super League. Digiturk broadcasts 221 channels to approximately 3.5 million subscriber homes. Since the acquisition of Digiturk by beIN MEDIA GROUP in August 2016, Digiturk has pursued its customer-oriented and innovative focus under the umbrella of a media giant operating in 40 countries in five continents. As a member of beIN MEDIA GROUP, Digiturk benefits from synergies with the Group's international network and its global know-how and expertise. As a trailblazer for HD broadcasting in Turkey, Digiturk has displayed a consistent commitment to the highest signal quality and is pursuing this track record with the country's first full-time Ultra HD channel.

Arqiva Secures Long-Term Capacity with Eutelsat for Broadcasting in United Kingdom and Ireland

July 27, 2017 - Arqiva and Eutelsat Communications announced an agreement that strengthens their relationship at the premium 28° East video neighbourhood. The multi-year, multi-transponder agreement covering high-power transponders at 28° East reinforces Arqiva's competitive position as a leading service provider for DTH services in the UK and Ireland. With multiple teleports, transponders and connectivity solutions, Arqiva offers its customers an end-to-end suite of services to deliver channels into over 10 million Sky and Freesat homes.

Arabsat Launches Medi-1 TV HD on Free-To-Air DVB-S2 Platform

July 31, 2017 - Arabsat announced the broadcast of Medi-1 TV HD on the newly launched Arabsat Free-To-Air DVB-S2 platform. Medi 1 TV broadcasts standard newscasts as well as talk-shows and documentaries. These programs cover current affairs, business and financial markets, and sports. It is rated among the top Pan-Arab stations by North Africa. With the launch of Media-1 TV HD, Arabsat viewers across the Middle East, North Africa & Europe will continue to receiving highly selective offering & wide varieties of prime Free-to-Air regional and international HD channels on Arabsat hotspot at 26° East.

LAUNCH / SPACE

Lockheed Martin Ventures Announces Investment in Terran Orbital

July 4, 2017 - Lockheed Martin Ventures is making a strategic investment in Terran Orbital, an expert in nanosatellite design, development, manufacturing, testing and launch. The investment will create opportunities for the companies to share their expertise and customer relationships to advance this emerging technology. The agreement includes cash and in-kind investments for an equity stake in Terran. Lockheed Martin has partnered with Terran in the past on Department of Defense and NASA missions. This investment will allow for an expansion of that relationship. While Lockheed Martin has provided funding to venture stage companies since 2007, it refocused in 2016 to longer term, strategic investments in technology innovations that could drive growth in existing, adjacent and new markets for Lockheed Martin. The fund invests primarily in early-stage companies, and its technology priorities include autonomous systems and robotics, cyber security, artificial intelligence, advanced electronics and sensor technologies.

Intelsat 35e Launches Successfully

July 5, 2017 - Intelsat S.A. announced the successful launch of the Intelsat 35e satellite, the fourth of the Intelsat Epic^{NG} high throughput satellites. Intelsat 35e was launched from Cape Canaveral, Florida aboard a SpaceX Falcon 9 launch vehicle. Manufactured by Boeing and equipped with an advanced digital payload, Intelsat 35e will deliver high performance services in C- and Ku-band for wireless infrastructure, mobility, broadband, government and media customers in the Americas, the Caribbean, Europe and Africa. Intelsat 35e will be placed into service

at 325.5° East where it replaces Intelsat 903, which will be redeployed to another Intelsat orbital location by year-end. The Intelsat Epic^{NG} fleet is designed to deliver more efficiency for satellite broadband service providers, providing improved performance and economics that allows customers to explore new applications and new business models to grow their businesses. Companies including Orange, INWI, Tele Greenland, Sonatel, Marlink, Speedcast, ETECSA and eProcess will be among the first to deploy services on the satellite once it is placed into service. Intelsat 35e also includes a tailored payload for direct-to-home (DTH) television services for Canal+, a leading provider of DTH services in the Caribbean.

SSL to Provide Next-Generation Imaging Satellite Constellation to DigitalGlobe

July 6, 2017 - Space Systems Loral (SSL) was selected to provide a next-generation satellite constellation for high-resolution Earth imaging to DigitalGlobe, the global leader in Earth imagery and information about our changing planet. Called WorldView Legion, the Low Earth Orbit (LEO) satellites will more than double DigitalGlobe's high-resolution capacity in important regions. The contract is valued at several hundred million U.S. dollars. SSL has entered into a firm-fixed price contract with DigitalGlobe to build the WorldView Legion satellites – the first of which is planned to launch in 2020 – to replace the WorldView-1, WorldView-2, and GeoEye-1 satellites. The WorldView Legion constellation will double DigitalGlobe's capacity to collect 30 cm and multi-spectral imagery starting in 2020. Once combined with DigitalGlobe's existing WorldView satellites and the forthcoming Scout small satellite constellation, DigitalGlobe will image the most rapidly changing areas on Earth as frequently as every 20 to 30 minutes, from sunup to sundown. These capabilities will provide even greater insights into global events of significance, giving customers the ability to make critical decisions with confidence when time is of the essence.

Thales Alenia Space Carries out Final BepiColombo Tests for Mission to Explore Mercury

July 6, 2017 - The European spacecraft BepiColombo is currently undergoing final testing in launch configuration, prior to being shipped to the Guiana Space Center in French Guiana next March for a scheduled October 2018 launch. It is built by Airbus Defence and Space as prime contractor, with Thales Alenia Space (the 67/33 joint venture between Thales and Leonardo) as major subcontractor, in charge of assembly integration and testing (AIT). Thales Alenia Space recently completed the latest acoustic and vibration tests at the ESTEC test center in the Netherlands, qualifying the complete Mercury Composite Spacecraft in launch configuration, and showing that it will stand up to the structural loads expected during the Ariane 5 launch. BepiColombo is Europe's first mission to Mercury, the smallest and least explored terrestrial planet in our Solar System. When it arrives at Mercury in late 2025, it will face temperatures exceeding 350°C. BepiColombo will gather data during a nominal mission lasting one year, with a possible one-year extension. It actually comprises two spacecraft: the Mercury Planetary Orbiter (MPO) and the Mercury Magnetospheric Orbiter (MMO). BepiColombo is a joint mission between the European Space Agency (ESA) and the Japan Aerospace Exploration Agency (JAXA), under ESA leadership.

Aerojet Rocketdyne Successfully Tests Advanced Electric Propulsion System

July 6, 2017 - Aerojet Rocketdyne, Inc., a subsidiary of Aerojet Rocketdyne Holdings, Inc., successfully conducted a series of hot-fire tests on a Power Processing Unit (PPU) for an Advanced Electric Propulsion System (AEPS) designed to advance the nation's commercial space capabilities as well as support NASA's plans for deep space exploration. The tests were conducted at NASA's Glenn Research Center in Cleveland, Ohio. The tests were performed in conjunction with NASA's Technology Development Unit thruster and a Xenon Flow Control Unit. They are being conducted as part of a $65 million contract that NASA awarded Aerojet Rocketdyne in April 2016. Under the contract, Aerojet Rocketdyne will develop, qualify and deliver five 12.5 kilowatt Hall thruster subsystems, including thrusters, PPUs and xenon flow controllers. The AEPS Hall thrusters deliver twice the thrust when compared to Aerojet Rocketdyne's state-of-the-art XR-5 Hall thrusters, which are presently used to deliver government and commercial satellites to their geosynchronous orbit. According to NASA, work performed under the contract could increase spacecraft transportation fuel efficiency by 10 times over current chemical propulsion technology.

Singapore to Explore the Application and Development of Space Based VHF Communications

July 13, 2017 - GomSpace A/S together with The Civil Aviation Authority of Singapore (CAAS), Singapore Technologies Electronics Limited (ST Electronics) signed a Memorandum of Understanding (MOU) to explore the application and deployment of space-based Very High Frequency (VHF) communications for air traffic management (ATM) in and around the Singapore Flight Information Region (FIR). Space-based VHF communications represents the next level of communications capability, and will complement Singapore's existing ground-based equipment. It is a concept where VHF communications equipment are mounted onto a constellation of low-earth-orbit satellites to enable clear, cost-effective and real-time communications between air traffic

controllers and pilots anywhere. The technology will improve safety and enable the safe reduction in separation between aircraft in airspace where ground-based VHF communications is currently not available, increasing ATM capacity and reducing delays for aircraft in turn.

Norway Successfully Launches Microsatellites Built by Toronto's Space Flight Laboratory

July 17, 2017 - The Space Flight Laboratory (SFL) announced the successful launch of two Norwegian microsatellites developed and built by SFL for the Norwegian Space Centre with support from the Norwegian Coastal Authority, Space Norway, and the European Space Agency. The Soyuz-2.1a rocket carrying the satellites into orbit launched from Baikonur on 14 July 2017. The first satellite, dubbed NORsat-1 carries a state-of-the-art Automatic Identification System (AIS) receiver to acquire messages from maritime vessels, a set of Langmuir probes to study space plasma characteristics, and a Compact Lightweight Absolute Radiometer (CLARA) to measure total solar irradiation and variations over time. The payloads were provided by Kongsberg Seatex, the University of Oslo and the Physikalisch-Meterologisches Observatorium Davos World Radiation Center. The second satellite, NORsat-2 also carries an AIS receiver, but in addition has a VHF Data Exchange (VDE) payload that will enable higher bandwidth two-way communication with ships. Both payloads were provided by Kongsberg Seatex. NORsat-2 will be the first satellite to provide VDE services to Norway. Adding VDE enables increased messaging capacity, better reliability of message delivery, and increased range of ship-to-shore and ship-to-ship communication beyond direct line of sight.

JAXA, Tohoku University and Hokkaido University on Comprehensive Cooperation Agreement on ISS/Kibo Microsatellite deployment Projects

July 18, 2017 - JAXA, Tohoku University and Hokkaido University made a comprehensive agreement on the promotion of microsatellites. Through the agreement the three entities will seek to facilitate the future use of microsatellites which will be deployed from the Kibo, Japanese Experiment Module onboard the International Space Station (ISS). Last October, JAXA drew up a strategic plan to make the best use of Kibo. Since then, JAXA is working on building the framework where Kibo serves as the central establishment for the nation's space research and development and where application of collected data is maximized. In the framework, priority is given to the platform of microsatellite deployment. JAXA will establish strategic partnerships with reputable universities and consortiums which have satellite integration technology and a record of producing spacecraft for domestic and foreign enterprises. This agreement allows JAXA to work with partners in the process as early as the user selection stage all the way to the launch of the finished product to expand the utilization of Kibo.

New Type of Booster Casing for ARIANE 6 Successfully Tested

July 19, 2017 - MT Aerospace AG, a space technology company based in Augsburg, Germany and subsidiary of the listed technology group OHB SE, successfully tested a new technology for carbon fiber-reinforced (CFRP) booster casings. With a diameter of 3.5 meters and a length of 6 meters, the booster was tested at the Materials Testing Institute in Stuttgart to determine whether it meets representative requirements as seen during an Ariane launch. Simulating pressure loads over 125 bar, the CFRP booster casing successfully passed all tests. Since 2015 MT Aerospace has been already involved in the development and industrialization of the Ariane 6 CFRP booster. Alongside Colleferro near Rome, Augsburg is selected to be the second production site for CFRP booster casing for the new European launch vehicle, replacing the previous steel versions of Ariane 5. The successful test marked the completion of a crucial milestone in the development program. The maiden flight for the new ARIANE 6 is scheduled for 2020.

ULA Signs Contract with Sierra Nevada Corporation to Launch Dream Chaser Spacecraft

July 19, 2017 - Sierra Nevada Corporation (SNC) announced that it selected United Launch Alliance's (ULA's) commercially developed Atlas V rocket to launch the first two missions of its Dream Chaser cargo system in support of NASA's Cargo Resupply Services 2 (CRS2) contract. The two awarded Atlas V missions will carry pressurized and unpressurized cargo to the International Space Station (ISS). The first mission is set to lift off in 2020 from Space Launch Complex 41 at Cape Canaveral Air Force Station, in Florida. The second contracted mission is scheduled to lift off in 2021. Dream Chaser will launch atop an Atlas V 552, with a dual engine Centaur upper stage.

Lockheed Martin to Build Full-Scale Prototype of NASA Cislunar Habitat

July 20, 2017 - Refurbishing a shuttle-era cargo container used to transfer cargo to the International Space Station, Lockheed Martin is prototyping a deep space habitat for NASA at Kennedy Space Center. This prototype will integrate evolving technologies to keep astronauts safe while onboard and operate the spacecraft autonomously when unoccupied. Lockheed Martin artist rendering of the NextSTEP habitat docked with Orion in

cislunar orbit as part of a concept for the Deep Space Gateway. Orion will serve as the habitat's command deck in early missions, providing critical communications, life support and navigation to guide long-duration missions. Under a public-private partnership, NASA recently awarded Lockheed Martin a Phase II contract for the Next Space Technologies for Exploration Partnerships (NextSTEP) habitat study contract. As part of Phase II, the team will continue to refine the design concept developed in Phase I and work with NASA to identify key system requirements for the Deep Space Gateway. Included in this work, the team will build a full-scale habitat prototype in the Space Station Processing Facility at NASA's Kennedy Space Center and a next-generation deep space avionics integration lab near Johnson Space Center.

DARPA Awards Rocket Crafters Contract to Design, Develop and Test Large-scale Hybrid Rocket Engine

July 25, 2017 - Rocket Crafters, Inc. (RCI) announced it has been awarded a $542,600 research contract by the Defense Advanced Research Projects Agency (DARPA). Under the terms of the agreement, RCI is tasked to build and test a large-scale hybrid rocket engine using RCI's patented Direct-Digital Advanced Rocket Technology (D-DART™). During the eight-month period of performance, RCI aims to design, build, and test a 5,000 lbf peak thrust, throttle-capable hybrid rocket engine based on the company's potentially industry-disruptive rocket engine technology. In theory, hybrid rockets have several advantages over the more commonly used solid and liquid chemical rockets. They can be throttled and restarted, unlike a solid rocket, and are less costly and faster to develop compared to liquid rocket engines due to their mechanical simplicity. They are also safer to handle than either solid or liquid rockets. For these reasons, Government and industry researchers have long sought to develop a large-scale hybrid rocket engine but have had significant difficulties with unpredictable thrust and excessive vibration.

CubeCab to Launch 1,000 Satellites for ThumbSat

July 24, 2017 - In the largest single agreement to date, educational satellite company, ThumbSat has agreed to launch 1,000 of its satellites on CubeCab's Cab-3A rocket family. Typical costs for an educational satellite sharing a ride to orbit run in the hundreds of thousands of dollars. Over the next five years, the agreement between CubeCab and ThumbSat will enable hundreds of universities and high schools to run their own space-science projects for roughly $20,000 each, with certain customizations moderately increasing the price. The key enabling technology is CubeCab's low-cost, low-payload rocket, costing only $250,000 per launch, compared to the millions of dollars necessary to launch most rockets, and able to reach orbits that other launch vehicles do not serve.

MDA to Provide Communications Subsystem to Sierra Nevada Corporation for Dream Chaser

July 26, 2017 - MacDonald, Dettwiler and Associates Ltd. (MDA), a global communications and information company, announced that it has received an Authorization to Proceed on a multi-million dollar contract from Sierra Nevada Corporation (SNC). MDA will provide a communications subsystem for on-board communication signal processing capabilities for the Dream Chaser® Cargo System, a cargo transportation spacecraft being developed by SNC under the NASA Commercial Resupply Services (CRS2) program. The spacecraft is scheduled for at least six cargo delivery missions to and from the International Space Station between 2020 and 2024.

ILOA and Canadensys Aerospace Announce Lunar Optics Program for Lunar South Pole Observatory

July 27, 2017 - The International Lunar Observatory Association (ILOA), based in Hawaii, and Toronto-based Canadensys Aerospace Corporation, announce a new program for their continued collaboration to develop the payload for the International Lunar Observatory mission (ILO-1) to the Moon's South Pole in 2019. ILOA and Canadensys have signed this month a multi-year contract for Canadensys to develop robust optics for the ILO-1 mission. This Lunar Optics Program complements the previous development of robust electronics components for the mission, and develops further technology required to enable the observatory to survive and operate under the harsh temperature, radiation and vacuum environment it will encounter during its long-term lunar south pole mission.

AsiaSat 9 Set for 28 September Launch

July 31, 2017 - AsiaSat 9 is set for launch on 28 September on a Proton M/Breeze M rocket from Baikonur Cosmodrome, Kazakhstan after being in storage at Space Systems Loral's facility with its Pre-ship Review passed in April. AsiaSat 9, Asia's next generation satellite, will replace AsiaSat 4 at 122 degrees East longitude. Designed with innovative and cutting edge features, this new satellite will deliver significantly improved performance and higher efficiency for customers' services. New services on AsiaSat 9 include the world's first dedicated Ku-band Myanmar beam and the new Ku-band Indonesia and Mongolia beams, in addition to two

enhanced Ku-band beams serving Australasia and East Asia, and a C-band footprint that offers wider high-power coverage over Asia, Australasia and the Pacific region. AsiaSat 9's five Ku-band beams are equipped with cross-strap beam switching capability to provide flexible coverage. Manufactured by Space Systems Loral, AsiaSat 9 is an SSL 1300E satellite equipped with 28 C-band and 32 Ku-band transponders, and a Ka-band payload. Unique features onboard the AsiaSat 9 spacecraft include the most powerful C-band TWTA at 110 watts, combined with special filter design to achieve higher bandwidth for higher throughput, an increase of 23% across wider coverage; fitted hall effect thrusters and star tracker to achieve higher stability and reliability in satellite operation, and better performance at the edge of beam coverage.

EXECUTIVE MOVES

BridgeSat, Inc. Appoints Barry Matsumori as CEO

July 12, 2017 - Allied Minds plc announced the appointment of Barry Matsumori as CEO of BridgeSat, Inc. (BridgeSat) effective 17 July 2017. The appointment follows the successful Series A funding round announced by BridgeSat on 5 May 2017. BridgeSat, an Allied Minds subsidiary, was founded on technology sourced from The Aerospace Corporation, seeking to revolutionize satellite data downlinking with an advanced optical communications network. Delivering faster, more reliable and affordable data transmission to the rapidly growing low earth orbit (LEO) satellite sector will enable a new era of applications and services. Barry has extensive experience in the wireless and Space 2.0 sectors, including 9 years at Qualcomm where he served as VP Wireless Connectivity, and most recently in lead business development roles at SpaceX and Virgin Galactic. This experience is well aligned to BridgeSat's development objectives as it seeks to advance the three components of its offering: space terminal; ground station and management network.

ViaSat Welcomes Varsha Rao to Board of Directors

July 12, 2017 - ViaSat, Inc. announced the appointment of Varsha Rao to its Board of Directors. Ms. Rao will serve as a Class III director effective immediately, with an initial term expiring at the Company's 2017 Annual Meeting of Stockholders. With the appointment of Rao, the ViaSat Board now consists of nine members, seven of whom are independent directors. Rao is the former Head of Global Operations at Airbnb, Inc., a global travel marketplace, a role she held from 2013 to 2016, and where she currently serves as an Advisor. From 2011 to 2013, she served as the Senior Vice President International of LivingSocial, Inc. (owned by Groupon), an online marketplace for daily deals. From 2008 to 2011, Rao served as the Chief Executive Officer of SingTel Digital Media Pte Ltd., an online search and lifestyle portal and wholly-owned subsidiary of SingTel.

Intelsat Appoints New Leaders to Advance Broadband, Mobility and Media Businesses

July 18, 2017 - Intelsat S.A. announced three new leadership appointments expected to drive product development, innovation and growth for the organization and its customers. Under the new structure, Jean-Philippe Gillet will lead the Broadband business, Mark Rasmussen will head the Mobility business and Robert Cerbone joins the company as the head of the Media Services business. Intelsat's Mobility business provides satellite services across the maritime, oil and gas, and aeronautics sectors. In his new role, Mark Rasmussen will lead a team responsible for strategy and new product and service development for the global mobility sector, including expansion of the new IntelsatOne Flex Maritime and Aeronautic managed services. Intelsat's Broadband business serves customers in the wireless and enterprise sectors. In his new role, Jean-Philippe Gillet will lead a team responsible for strategy and new product and service deployment, including those built upon Intelsat's award winning Intelsat Epic^{NG} high throughput satellite platform. Intelsat's Media Services business serves customers in the content distribution and direct-to-home video sector. In his new role, Robert Cerbone will be responsible for the development of Intelsat's linear and non-linear media strategy, new product and service development, and leading Intelsat's media initiatives worldwide.

Doug Jones Joins Deep Space Industries to Lead Development of Next Generation Propulsion Systems.

July 27, 2017 - Deep Space Industries announced that Doug Jones, formerly chief test engineer at XCOR, joined the company's growing team as director of propulsion systems. Jones has designed, built and tested over a dozen different rocket designs for a wide range of customers, including two manned vehicles. Doug has decades of aerospace engineering experience ranging from liquid rocket engine design to vehicle system optimization, and has flown aboard a rocket aircraft multiple times while serving as flight test engineer during the development of the XCOR X-Racer.

REPORTS

Satellite Capacity Pricing Volatility Continues as Operators Vie for High-Volume Verticals
July 10, 2017 - NSR's Satellite Capacity Pricing Index 3rd Edition finds that in an era of shorter contract lengths, consolidating end users, technology change, and generally lower pricing; factors influencing price are more complex than ever. NSR's report finds that satellite capacity pricing has continued to erode globally across most, if not all, verticals and regions; however, this does not tell the entire story, with pricing having been found to fall across a wide spectrum determined by a multitude of end user requirements and other key factors.

$30 Billion Market Value for Small Satellites over Coming Decade
July 13, 2017 - According to Euroconsult's latest report, Prospects for the Small Satellite Market, significant expansion in terms of capabilities and demand is underway in the smallsat market. Over 6,200 smallsats are expected to be launched over the next ten years, a substantial augmentation over that of the previous decade (several mega constellations are now included within the scope of this report). The smallsat market from 2017-2026 will be driven by the roll-out of multiple constellations accounting for more than 70% of this total, mainly for commercial operators.

NSR Releases Maritime Satcom Markets, 5th Edition
July 20, 2017 - NSR's Maritime Satcom Markets, 5th Edition continues as a dedicated focus on the maritime satellite market. Following recent M&A activity and more services-centric partnerships by satellite operators, the report provides readers with the most complete overview on addressable maritime markets, vendor market share, pricing, revenues, and capacity demand for all commercial maritime vertical segments.

UPCOMING EVENTS

Digital Ship Maritime CIO Forum Tokyo, 30 August 2017, Tokyo, Japan, www.tokyo.thedigitalship.com

Space Technology & Investment Forum, 30-31 August 2017, San Francisco, USA, www.spacetechforum.com

World Satellite Business Week, 11-15 September 2017, Paris, France, www.satellite-business.com/en

21st Summit for Satellite Financing, 11-14 September 2017, Paris, France, www.satellite-financing.com/en

IBC 2017, 14-18 September 2017, Amsterdam, the Netherlands, www.ibc.org

Myanmar Connect 2017, 19-20 September 2017, Nay Pyi Taw, Myanmar, www.capacityconferences.com/Myanmar-Connect.html

VSAT Global 2017, 19-22 September 2017, London, U.K., https://tmt.knect365.com/vsat-global/

ITU Telecom World 2017, 25-28 September 2017, Busan, Korea, http://telecomworld.itu.int/
ITU Telecom World 2017 in Busan, Republic of Korea, from 25 to 28 September, hosted by the Ministry of Science, ICT and Future Planning (MSIP). The event is the global platform where policy-makers and regulators meet industry experts, investors, and SMEs to exhibit solutions, share knowledge and network at the highest level. The event focus on global opportunities of smart digital transformation, including smart ABC (AI, Banking, and Cities) – five pillars: exhibition, forum, Awards, Business Matching, and side events.

SATCOMS 2017, 25-28 September 2017, London, U.K., http://events.theiet.org/satcoms/index.cfm

Satellite Innovation Symposium, 2-3 October 2017, Silicon Valley, CA, USA, https://satelliteinnovation.com/

APSCC 2017 Satellite Conference Exhibition, 10-12 October 2017, Tokyo, Japan, www.apscc2017com

SCAT India 2017, 12-14 October 2017, Mumbai, India, www.scatmag.com/scatindia

China Satellite 2017, 25-27 October 2017, Beijing, China, www.china-satellite.org

Communic Indonesia 2017, 25-27 October 2017, Jakarta, Indonesia, www.communicindonesia.com

SATCOMRUS 2017, 1 November 2017, Mosow, Russia, http://satcomrus.ru/page41/register_2017_eng/

CASBAA Convention 2017, 6-9 November 2017, Macau, www.casbaaconvention.com

Global MilSatCom 2017, 7-9 November 2017, London, U.K., www.globalmilsatcom.com/APSCC
Described as "the best networking event" by its audience, SMi's 19th Global MilSatCom Conference and Exhibition will yet again raise the bar with an agenda featuring a line-up of high-level speakers and unmissable interactive opportunities offered during four days of conference sessions, workshops and networking receptions. Europe's leading military event for satellite professionals returns to London this November, gathering 500 international senior military and key industry representatives to network, benchmark, and learn about the latest developments in SatCom technology, discuss strategies to fulfill capability gaps, and address critical military and government requirements. View full agenda and register now at www.globalmilsatcom.com/APSCC.

The 3rd Global SatShow, 8-9 November 2017, Istanbul, Turkey, www.globalsatshow.com

Asia-Pacific Regional Space Agency Forum (APRSAF-24), 14-17 November 2017, Bengaluru, India, www.aprsaf.org

Editorials and Inquiries

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

Inho Seo, Editor, APSCC Publications
Asia-Pacific Satellite Communications Council (APSCC)
T-1602, 170, Seohyeon-ro, Bundang-gu, Seongnam-si,
Gyeonggi-do 13590, Rep. of KOREA
Tel: +82 31 783 6247 Fax: +82 31 783 6249
E-mail: editor@apscc.or.kr Website: www.apscc.or.kr

About APSCC

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