

# APSCC Monthly e-Newsletter

## January 2018

The **Asia-Pacific Satellite Communications Council (APSCC) e-Newsletter** is produced on a monthly basis as part of APSCC's information services for members and professionals in the satellite industry. Subscribe to the APSCC monthly newsletter and be updated with the latest satellite industry news as well as APSCC activities! To renew your subscription, please visit [www.apsc.or.kr/sub4\\_5.asp](http://www.apsc.or.kr/sub4_5.asp). To unsubscribe, send an email to [info@apsc.or.kr](mailto:info@apsc.or.kr) with a title "Unsubscribe."

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

### INSIDE APSCC

#### **APSCC Session at PTC'18 - Satcom in the Next Decade: What Will the Future Hold?**

22 January 2018, Honolulu, Hawaii, USA, [www.ptc.org/ptc18/](http://www.ptc.org/ptc18/)

The satcom innovation wave is gathering steam globally. Once a conservative industry with change occurring over long cycles, the operator business is radically shifting, value chains are in a state of flux, and ground segment technology is evolving at a rapid pace. New investment, orbits, models and applications all promise to alter the satcom paradigm forever, and the broader telco community is taking notice. What then will the satcom market look like in 5 years? 10 years? Who wins and who loses in this new state of play? This interactive session will explore this question in detail and prognosticate on the landscape for satellite services in the Pacific.

*Moderator:* Chris Baugh, CEO, NSR & Gregg Daffner, CEO, GAPSAT; President, APSCC

*Speaker:* Mark Dankberg, CEO, Viasat  
Pierre-Jean Beylier, CEO, Speedcast  
Stuart Daughtridge, SVP, Kratos  
Imran Malik, VP, SES Networks

APSCC members can enjoy discounted rate when PTC'18 registration.

### SATELLITE BUSINESS

#### **DOZOR-TELEPORT Implements DVB-S2X Network over iDirect Platform in Russia**

December 1, 2017 – VT iDirect announced that AMTEL-SVYAZ Company will launch the first iDirect DVB-S2X network in Russia, utilizing the iQ Series of remotes. The network is expected to operate on up to five geostationary satellites, providing coverage over the Russian Federation and parts of the adjacent seas and oceans, delivering cost-effective connectivity throughout the Russia region. AMTEL-SVYAZ will leverage their iDirect network to offer high-speed connectivity to a wide range of enterprise markets, such as Energy, Banking, Oil and Gas, and Maritime. This launch also enables the company to expand their territory and allows flexible pricing for their customers. iDirect's next-generation DVB-S2X technology delivers revolutionary gains in performance and efficiencies, and will enable AMTEL-SVYAZ to scale their network efficiently and cost effectively. The iQ Desktop remotes are designed to meet the needs of networks within a wide range of performance scenarios and software licensing features, all based on a future-proof software-upgradeable design.

#### **Yahsat Partners with BLUETOWN to Connect the Unconnected across YahClick's Footprint**

December 4, 2017 – Yahsat, the UAE-based satellite operator, signed a MoU with the Danish technology and Internet Service Provider company BLUETOWN. The partnership agreement aims to connect the unconnected by providing high performance Ka-band satellite Internet services combined with BLUETOWN's unique last mile solutions in unserved or underserved locations. Both companies will join forces to offer an innovative, reliable and sustainable solution that will overcome the challenging and harsh terrain conditions present in the most remote areas of Africa. The combination of the partners'

technologies will support the distribution of Yahsat Internet satellite services to a substantial number of users within communities utilizing BLUETOWN's last mile solution. BLUETOWN solutions vary from single village installations and refugee camps to solutions with up to 200 Wi-Fi hotspots in a 15 km radius. All solutions are 100% powered by solar energy with rechargeable batteries as a back-up, which provides 24/7 access to the Internet. The Wi-Fi hotspots will be backhauled by YahClick, the high-performance satellite broadband service provided by Yahsat, making it possible for people to browse the Internet, keep in touch, or participate in e-learning, e-health and e-government programs using any smartphone, tablet, or laptop.

#### **SES Partners with iDirect to Deploy iDirect Velocity Platform for GEO High Throughput Satellites**

December 5, 2017 – Customers of SES's geostationary (GEO) High Throughput Satellite (HTS) services will have greater flexibility and control of their capacity following the deployment of the iDirect Velocity ground infrastructure, developed by VT iDirect, SES announced. The iDirect Velocity infrastructure will be deployed across three HTS systems – SES-12, SES-14 and SES-15 – enabling SES Networks to host and provide modular and scalable solutions for its partners and customers, initially for SES Maritime+ services, and then as a multi-application service platform for the fixed and mobility markets. SES is deploying the iDirect Velocity infrastructure across the HTS gateway locations around the globe, allowing SES Networks to offer fully managed end-to-end services, or to delegate control of capacity and other key parameters to customers who, in turn, can do the same for their own customers. The SES Networks Global Services teams across numerous Network Operations Centres (NOCs) and its partners will have unprecedented insight into global bandwidth resources and maximum flexibility for resource allocation.

#### **KDDI Selects Gilat for Nationwide LTE Network in Japan**

December 6, 2017 – KDDI selects Gilat satellite based LTE cellular backhaul solution to extend reach and resilience with high speed data and high-quality voice over LTE (VoLTE) throughout Japan. KDDI has chosen Gilat's LTE cellular backhaul solution to provide voice, data and video services at true LTE speeds and high voice quality. Gilat's VSATs will be installed in fixed sites as well as on deployable vehicles for emergency response – cellular on wheels (COW). The solution leverages Gilat's patented LTE backhaul solution and leading mobility features to support continuous service for public safety, in addition to the outstanding performance provided in fixed LTE cellular sites. Hundreds of Gilat's VSATs will be deployed in Japan nationwide.

#### **Globecomm to Explore Expansion of Worldwide Network with LeoSat**

December 6, 2017 – LeoSat Enterprises, which is launching a constellation of up to 108 low-earth orbit (LEO) communications satellites, has entered into a MoU to explore a potential service agreement with Globecomm Systems Inc., a leading global connectivity provider serving enterprise, oil & gas, maritime and government markets around the world. LeoSat's earth encompassing satellite constellation, in effect, an optical backbone in space, can provide instant infrastructure from anywhere to everywhere which is fast, secure and reliable, opening up a wide range of new opportunities for companies such as Globecomm looking to expand their existing network capabilities.

#### **Comtech Receives \$1.9 Million in Funding to Support U.S. Navy's Advanced TDMA Terminals**

December 6, 2017 – Comtech Telecommunications Corp. announced that during its first quarter of fiscal 2018, its Tempe, Arizona-based subsidiary, Comtech EF Data Corp., which is part of Comtech's Commercial Solutions segment, received a contract modification that funded \$1.9 million under an Engineering Support Services Contract Line Item (CLIN). The authorized funding will be applied to support additional capabilities to the Advanced Time Division Multiple Access (TDMA) Interface Processor (ATIP) production terminals in support of the Space and Naval Warfare Systems Command (SPAWAR).

#### **Eutelsat Satellite Connectivity Selected by Colombian Government**

December 6, 2017 – The Colombian Ministry of Defence has signed an agreement with Eutelsat for capacity on the EUTELSAT 115 West B satellite. The multi-transponder contract, the first between Eutelsat and the Colombian Ministry of Defence, follows the signature of a government to government agreement between France and Colombia, designed to encourage cooperation in the context of the France-Colombia Year. The Colombian government will leverage EUTELSAT 115 West B's exceptional power levels over the Andean Region to host Ministry of Defence networks across the country, used by the General Command of the Colombian Military Forces, the Army and the Air Force.

### **Dream Cruises' World Dream to Experience Ultra-fast Connectivity with SES Networks**

December 7, 2017 – Guests and crew members onboard the recently-launched World Dream, Dream Cruises' second-mega ship under Genting Cruise Lines, will experience the transformational, ultra-fast and consistently reliable connectivity powered by SES Networks. With the significantly enhanced connectivity, guests can stream countless movies, game online and share real-time vacation travel videos and photos across social media platforms. The innovative, low-latency connectivity leverages SES's O3b medium earth orbit (MEO) constellation and fully managed end-to-end services, enabling a high-performance onboard broadband service that delivers a premium experience for World Dream passengers equivalent to that of terrestrial onshore fibre services.

### **Asian Defense Organization Orders Orbit Aeronautical Telemetry Systems**

December 7, 2017 – Orbit Communications Systems Ltd. announced that an Asian defense organization ordered aeronautical telemetry systems for approximately US\$7 million. The turnkey solution – including several shipborne 1.8-meter S-band antennas, full ground stations and a mission control center – will be used for test range applications. Delivery of the high-precision systems is expected to continue until 2020.

### **mu Space Becomes First Thai Startup to Acquire Satellite License**

December 8, 2017 – mu Space becomes Thailand's first space technology startup to operate a satellite service after the National Broadcasting and Telecommunications Commission awarded a license for the company. The 15-year license covers the operation of a satellite and provision of satellite-based services until 2032. mu Space plans to differentiate mu Space from the others by providing satellite services that are affordable and easy to install. mu Space promises fast customer support and wide coverage, including in rural communities. In September, mu Space had signed an agreement to support the Thai government's vision of building a Digital Park and a learning academy for Internet of Things. The facilities will be built on a 960,000 sqm land in Chonburi, located within the Eastern Economic Corridor (EEC) zone. With the space industry worldwide predicted to be worth USD 2.7 trillion (THB 88.2 trillion) in the next 30 years, mu Space is joining the space race with the launch of its own satellite in 2021. The company also plans to offer space tourism to customers in Asia within the next decade. In September, mu Space became Blue Origin's first Asian customer when it signed a deal to partner on a future satellite launch aboard their New Glenn orbital rocket.

### **Marlink to Acquire Livewire Connections**

December 11, 2017 – Marlink, backed by Apax-partners, has signed a definite agreement to acquire 100% of the shares in Livewire Connections, a UK headquartered satellite communications service provider with focus on superyacht customers. The move follows the recent announcement that Marlink intends to acquire a majority stake in the Spanish superyacht service provider OmniAccess. Both companies have been strategically chosen for their leading position, unique capabilities and quality focus to provide unrivalled services and value for customers in the highly demanding superyacht segment. Following completion of the share purchase, Livewire Connections will become part of the Marlink Group, joining the worldwide leader in maritime communications and maritime VSAT services, generating close to \$500 million revenues, employing approx. 1000 experts globally and serving an installed base of around 5000 VSAT vessels under contract.

### **Hughes Signs Contract with OneWeb for Production of Ground Network System**

December 13, 2017 – Hughes Network Systems, LLC (Hughes) signed a contract for \$190M with OneWeb for the production of a ground network system, supporting OneWeb's constellation of Low Earth Orbit (LEO) satellites in its mission to bring affordable broadband service to millions of households, schools and other end users around the world. This contract builds on the original system development agreement between the companies signed in June 2015, bringing the total value of both to over \$300M. It includes production of the gateway sites each with multiple tracking satellite access points to support operation and handoff of high-speed user traffic between satellites. Joint development of the ground network system began approximately two years ago. The current agreement includes equipment to support multiple satellite access points in gateway locations around the world, each including a custom switching complex, outdoor modems, and power amplifiers. Shipments are expected to begin in mid-2018.

### **DCS Telecom Selects LeoSat for Innovative Data Solution**

December 13, 2017 – LeoSat Enterprises has entered into an agreement with DCS Telecom, a leading telecoms provider of satellite and networking solutions in the Middle East, Africa and Asia. DCS Telecom

will use LeoSat to upgrade its existing satellite solutions, giving customers access to a unique low-latency network which is expected to revolutionize data connectivity. LeoSat's system of low earth orbit communications satellites can achieve lower latency and stronger end-to-end security compared to traditional satellite and terrestrial solutions used today. This is achieved through an advanced and unique system architecture utilizing optical inter-satellite laser links which connect the satellites, creating fiber-like symmetry at Gigabits speeds while providing total security as the data is encrypted and secured from end-to-end across the network, with no terrestrial touch points.

#### **Comtech Receives Order for Solid-State Power Amplifiers for In-flight Connectivity**

December 13, 2017 – Comtech Xicom Technology has received an order for more than \$9.4 million for Solid-State Power Amplifiers (SSPAs) to be used in an airborne, In-Flight Connectivity application. These Gallium Nitride (GaN) SSPAs enable high-speed satellite connectivity in the cabin. This order will support Comtech Xicom Technology's continued production of this product through the latter part of 2018.

#### **SES Drives 5G Satellite Demonstration Testbed Initiative with ESA**

December 14, 2017 – SES is expanding its efforts to support 5G developments as part of ESA's ARTES project, SATis5, where it will be enabling demonstrations of satellite-terrestrial integration for 5G networks. The testbed infrastructure will comprise SES's fleet of Geostationary Earth Orbit (GEO) and Medium Earth Orbit (MEO) satellites, which will be integrated with terrestrial networks and state-of-the-art technologies. In addition to providing the space segment, SES's headquarters in Luxembourg will also host a SATis5 testbed node with prototypes of networks for satellite integration, along with other nodes located in Berlin and Erlangen, and an additional portable node. SATis5 will act as a best-practice pathfinder for the trials, via live demonstrations of 5G satellite use cases such as enhanced mobile broadband (eMBB) and massive Internet of Things (mIoT) usage scenarios. The demonstrations, which will start in 2018, will showcase satellite integration capabilities in a mix of infrastructures for 5G and foster adoption of satellite as part of the 5G architecture. In addition, the SATis5 testbed will support 5G standardisation initiatives including the 3rd Generation Partnership Project (3GPP). The SATis5 project team is led by Eurescom and further comprises SES, Fraunhofer FOKUS, Fraunhofer IIS, Newtec, Technische Universität Berlin and Universität der Bundeswehr München.

#### **Kymeta Announces Commercial Availability of KĀLO Mobile Internet Access Services**

December 14, 2017 – Kymeta and Intelsat have announced that Kymeta KĀLO internet access is now available with broad initial geographic coverage. Kymeta is redefining how satellite services are purchased with KĀLO internet services, and making mobile communications as easy to buy as a mobile phone plan. KĀLO internet services, powered by the IntelsatOne Flex network, deliver broad connectivity when paired with the world's only commercially available flat panel, electronically-steered satellite terminals from Kymeta as well as other satellite terminal solutions. Kymeta KyWay terminals and mTennau7 antenna subsystem modules, open new markets for the satellite industry and allow organizations that require high-bandwidth mobile internet access to do business while on the move. For sectors that have traditionally had difficulty accessing reliable, affordable internet in the past – connected cars, renewable energy, commercial fishing, rail, bus and more – KĀLO provides a one-of-a-kind solution.

#### **ViaSat Expands Global Presence with New Offices in the U.S. and the Netherlands**

December 14, 2017 – ViaSat has opened new offices in Austin, Texas; Seattle, Washington; and Amsterdam, Netherlands. The new offices aim to drive innovation across a number of technical and engineering disciplines by leveraging the talented candidate pools in the local regions. Separately, ViaSat provided an update on its expanding headquarters in Carlsbad, Calif. The new 23-acre campus expansion, located across the street from the Company's existing headquarters, was designed to embody ViaSat's culture of creativity, exploration, freedom and innovation, as well as foster interaction between employees, clients and visitors. The space can accommodate six new office buildings, three parking structures, a cafe/conference center, recreational amenities for employees and an outdoor space providing 'unexpected experiences' and displays of ViaSat's latest technologies.

#### **Elara Adds iDirect Hub for Enhanced Real-time Data Streaming in Mexico**

December 14, 2017 – VT iDirect has announced that Elara Comunicaciones (Elara), a leading Mexican satellite provider, has equipped a new teleport with an iDirect satellite hub to support high-speed data applications. With the expanded iDirect network, Elara can raise the customer experience for mission-critical applications, delivering enhanced network availability and real-time streaming. The new hub,

located in Querétaro City, will be fully interconnected and redundant to Elara's existing iDirect hub in Mexico City, through a Layer 2 (L2) fiber link. Live-event streaming applications such as the Metropolitan Opera and the UEFA Champions League, as well as banking and Disaster Recovery Plan (DRP) connectivity operations will benefit from the enhanced network support. In addition, Elara can now provide enterprise data services, including L2oS (Layer 2 over Satellite) LAN-to-LAN applications, as well as multipath multicast content.

#### **SM Line Selects Intellian V100 as a Standard VSAT Antennas for its Fleet**

December 15, 2017 – Intellian has announced that its V100 maritime VSAT antenna has been chosen by SM Lines to power its ships' data and communications, and enable its IoT (Internet of Things) freight monitoring system. Internet-enabled physical objects that can process, receive or store information are enabling providers who can illuminate the supply chain's blind spots to improve productivity, make existing processes more efficient, and deliver new services that improve upon traditional business models. SM Line is implementing the freight monitoring technology to improve service quality along its key Asia-U.S. shipping route, and in doing so, it has become the first Korean container shipping company with the ability to monitor and track the condition of items in a container in real time. For its reefer users, this will mean that its customers are able to collect the temperature and humidity of the container and track it on shore in real time.

#### **Timor Telecom Enhances International Voice Connections in Timor-Leste through SES Networks**

December 18, 2017 – Timor Telecom (TT), the largest telecommunications operator in Timor-Leste, has expanded its partnership with SES Networks to enable international voice traffic between Timor-Leste and the rest of the world. Under the new agreement, TT will contract capacity on the high-powered NSS-12 geostationary earth orbit (GEO) satellite to establish a point-to-point link connecting Dili, Timor with Sintra, Portugal. Today, residents of Timor-Leste benefit from high speed 4G/LTE mobile data and broadband services provided by TT, which are powered by SES's O3b medium earth orbit (MEO) satellite network. With its capacity uptake on NSS-12, TT will broaden its suite of services with the carriage of international voice traffic between Timor-Leste and the rest of the world. This enables TT to continue empowering local communities with superior services and to meet all the communications needs of Timor-Leste citizens.

#### **Ericsson Extends Fixed Wireless and Sky Muster™ Satellite Operations Partnership with NBN Co**

December 19, 2017 – NBN Co has announced it will continue its fixed wireless and Sky Muster™ managed services partnership with Ericsson through to 2020. Ericsson will continue to be responsible for nbn fixed wireless network operations, ground systems operations for Sky Muster™ – the operator's satellite service – as well as customer connections and assurance for both technologies. NBN Co's fixed wireless and Sky Muster™ services cover more than 980,000 homes in regional and remote Australia with more than 290,000 homes connected to broadband services via NBN Co's retail service providers. NBN Co is an open-access, wholesale fixed broadband service provider, and was created to implement the Australian Federal Government's national broadband policy. It is wholly owned by the Commonwealth of Australia as a Government Business Enterprise (GBE).

#### **Comtech Receives \$1.5 million Contract for Satellite Equipment Spares from Brazilian Military**

December 21, 2017 – Comtech Telecommunications announced that during its second quarter of fiscal 2018, its Orlando, Florida-based subsidiary, Comtech Systems, Inc., which is part of Comtech's Government Solutions segment, has received an additional \$1.5 million contract from the Brazilian Military for satellite spares to support an existing system.

## **BROADCASTING**

#### **Optus Satellite Increases VAST Offering with New Customer 3 Angels Broadcasting Network**

December 4, 2017 – Optus Satellite has announced that major Christian lifestyle channel, 3 Angels Broadcasting Network (3ABN) Australia, will now broadcast on Aurora Digital reaching the VAST community (Viewer Access Service Television) bringing a wider variety of digital content to viewers in remote areas throughout Australia. VAST is a free-to-air direct-to-home satellite service initiated by the Australian Government and operated by Optus Satellite on the Optus Aurora Digital satellite platform. It

provides digital television and radio to people living in rural and remote areas of Australia who are unable to receive normal terrestrial broadcasting services. The service is now being broadcast through VAST services on channel 603 across Australia, as part of a two year contract.

#### **The Climate Reality Project Goes Global with Intelsat**

December 4, 2017 – Intelsat S.A. is providing global communications services for The Climate Reality Project's "24 Hours of Reality: Be the Voice of Reality" live broadcast. Intelsat's contribution services will be used to uplink video featuring performances and leaders from around the world. Intelsat's distribution services will be used to reach millions of people globally via the Intelsat 19, Intelsat 20, Intelsat 34, Intelsat 905 and Galaxy 17 satellites. In its seventh year of supporting The Climate Reality Project, Intelsat will use its Globalized Network, which includes its satellite network and IntelsatOne terrestrial services. Intelsat will contribute video from multiple locations worldwide, and support the broadcast of the event to more than 100 countries via traditional platforms such as Telemundo, France 24, SKY, PhoenixTV, and iHeartRadio.

#### **Sonlife Broadcasting Network Continues to Rely on SES Video for Pan-European Distribution**

December 6, 2017 – The Christian multi-media network Sonlife Broadcasting Network has renewed its capacity agreement with SES to continue broadcasting the SBN TV channel across Europe. Under the multi-year agreement, Sonlife Broadcasting Network will utilize capacity on ASTRA 1L, leveraging the wide reach of the key orbital slot 19.2 degrees East. With four satellites at this orbital slot, SES Video broadcasts more than 900 channels to over 110 million TV households.

#### **4KUNIVERSE to Launch in Swiss TV Households via SES**

December 11, 2017 – 4KUNIVERSE makes its international debut beyond North America, as SES begins distribution of the fast-growing Ultra HD channel to Swisscom, Switzerland's leading telecom company and one of its top IT firms, with 1.45 million television customers across Switzerland. Swisscom is adding 4KUNIVERSE to its expanding Ultra HD offering, which already includes a growing channel line-up, video on demand (VOD), and live sports events. 4KUNIVERSE was first introduced earlier this year on the SES Ultra HD platform in North America, which now features ten channels offering everything from action-packed adventure and travel television to space exploration, sports, and documentaries. SES's Ultra HD platform in North America is experiencing unprecedented demand, as over 30 cable and IPTV operators of all sizes, with a collective audience of more than 10 million subscribers, have initiated trials of the solution across their networks. Several operators have already launched commercial Ultra HD subscriber packages earlier this year, marking a historic first in the US.

#### **Arabsat & the National Broadcasting Corporation Launch Arabsat Satellite Platform in Tunisia**

December 12, 2017 – Arab satellite Communication Organization (Arabsat) and The National Broadcasting Corporation (ONT) are having a festival and a press conference in Tunisia to announce the launch of Arabsat Satellite Broadcasting Platform December 13, 2017 with the presence of a group of specialists in the field of Media and Satellite broadcasting.

#### **World's First Ultra HD HDR Travel Channel Travelxp 4K Makes German Debut on HD+ via SES**

December 12, 2017 – Travelxp 4K, one of the world's leading travel and lifestyle television channels, will start delivering its programmes in Ultra HD (UHD) and High Dynamic Range (HDR) to HD+ viewers across Germany as of 13 December 2017. The channel will be broadcast via Astra 19.2 degrees East and will rely on MX1 for playout and uplink services. Travelxp 4K is also one of the first networks in the world to broadcast in High Dynamic Range, a feature that provides better contrast and greatly improves the viewer experience. Thanks to that technology, HD+ customers can enjoy holiday destinations from around the world from the comfort of their own homes without any additional costs – in a picture quality that is almost as good as real-life. The Ultra HD HDR channel was first launched on SES's North American Ultra HD platform, nearly a year ago.

#### **The Country Network (TCN) Debuts in Ultra HD with SES**

December 12, 2017 – The Country Network (TCN), an emerging over-the-air television network devoted to showcasing rising and established country music stars, has joined SES's Ultra HD platform to launch its 4K channel and boost its audience reach. SES announced The Country Network (TCN) has debuted its first shows in Ultra HD this week and become the eleventh 4K channel on SES's all-in-one Ultra HD solution. The unique Ultra HD platform packages satellite distribution, reception gear, and the world's largest 4K

channel line-up for cable and IPTV operators of all sizes across North America. First launched in 2009, The Country Network is currently enjoyed by country music fans in 15 million US households and will leverage SES's ubiquitous coverage to dramatically increase viewership. The trio of satellites delivering SES's Ultra HD solution form North America's leading content distribution platform, reaching all 100 million-plus US cable television homes.

#### **All Media Baltics to Deliver Top-quality TV Reception via SES Video**

December 19, 2017 – All Media Baltics' Pay TV subscribers will be able to enjoy the broadcaster's channel package in HD quality, including its original premium TV channels, at 5 degrees East, following a multi-year capacity agreement announced by SES. Under the agreement, All Media Baltics will use several transponders of satellite capacity on ASTRA 4A to distribute its five original channels and its pay TV channel package to the Baltics, which includes movies, entertainment, and sports. All Media Baltics was created in October 2017 after Providence Equity Partners acquired all of the media and Pay TV companies of Modern Times Group in the Baltics, which was already relying on SES for delivery of its TV package at 5 degrees East. With this agreement, All Media Baltics ensures continuity for audiences and leverages the wide reach of SES's prime orbital position over the Nordic and Baltic region: SES reaches 1.73 million TV homes in the Baltics at that slot, representing 65% of all TV homes in the market.

## **LAUNCH / SPACE**

#### **Orbital ATK Achieves Major Development Milestone for Joint Polar Satellite System Program**

December 1, 2017 – Orbital ATK announced significant progress on the National Oceanic and Atmospheric Administration (NOAA) Joint Polar Satellite System (JPSS) spacecraft program. The JPSS-2 spacecraft will host instruments that provide essential operational space-based weather observations for NOAA, extending the successful 50-year NOAA/NASA partnership into the next two decades. Representatives from NASA, NOAA and Orbital ATK recently completed a successful spacecraft Critical Design Review (CDR) for JPSS-2, which demonstrated that the program met all system and schedule requirements. Also evaluated was Orbital ATK's responsibility for integrating five government-furnished instruments, and supporting the launch, early operations, and on-orbit satellite check-out prior to handing operations over to NOAA.

#### **Colombian Air Force Orders its Second Advanced Nanosatellite Platform from GomSpace**

December 1, 2017 – GomSpace has signed a contract with the Colombian Air Force (FAC) for the FACSAT-2 spacecraft platform and an associated Capacity Building and Technology Transfer Program. The FACSAT-2 Project comprises the design, manufacture, test and operation of an advanced 6U remote sensing spacecraft. This new project will build on the technology transfer gained through the FACSAT-1 project, awarded to GomSpace in 2014. FACSAT-2 spacecraft is planned to be launched in 2019, coinciding with the 100th anniversary of the Colombian Air Force. As part of the contract, GomSpace will also assist FAC in the creation of its own nanosatellite Integration laboratory and operations centre at the air force base in Cali, which will be the new home of the FACSAT Program. An interdisciplinary team has been preselected by FAC to coordinate and support the Capacity Building and Technology Transfer Program.

#### **Spaceflight Prepares to Launch Eleven Spacecraft on India's PSLV-C40**

December 4, 2017 – Spaceflight, the leading satellite rideshare and mission management provider, announced it will be launching 11 spacecraft in early January 2018 from India's Polar Satellite Launch Vehicle (PSLV). Spacecraft include Finland's ICEYE-X1 SAR microsatellite, Planetary Resources' Arkyd-6 6U asteroid prospecting demonstration cubesat, four Spire Global Lemur-2 cubesats, Astro Digital's Landmapper-BC3, AMSAT's Fox-1D cubesat, and others. Spaceflight performed the cubesat integration at its Seattle Integration Facility and is in the process of shipping the spacecraft to India for the PSLV-C40 mission. The PSLV rocket is scheduled to lift off from India's Satish Dhawan Space Center in early January 2018 with the Cartosat-2ER navigation satellite, in addition to Spaceflight's rideshare customers.

#### **UrtheCast and Beijing Space View Technology Sign Strategic Cooperation Agreement**

December 4, 2017 – UrtheCast Corp. and its subsidiary, the Earth Observation company Deimos Imaging, announced the signing of a strategic cooperation agreement with Beijing Space View Technology Co. Ltd. ("Space View"), a leading provider of remote sensing satellite data and geospatial information services based in China, for the mutual global distribution of their respective product portfolios. The space assets of

Deimos Imaging and Space View include Deimos-1, Deimos-2 and the satellite SuperView constellation, of which currently 2 satellites have been launched, with the next two to be launched at the end of 2017, resulting in a wide portfolio of medium, high and very high-resolution satellites. These assets are complementary and are expected to provide customers with an exceptional level of decision making data, and to create unique and valuable benefits across a diverse group of sectors while strengthening the positions of both companies in their respective markets.

#### **JAXA and ISRO Sign Implementation Arrangement for Joint Study of Joint Lunar Polar Exploration**

December 6, 2017 – Japan Aerospace Exploration Agency (JAXA) and Indian Space Research Organization (ISRO) signed the Implementation Arrangement (IA) concerning joint study of Lunar Polar Exploration. JAXA and ISRO signed the MoU to promote collaboration in space field in November 2016. Under this MoU, both agencies have been exploring the possibility of mutual cooperation in the field of lunar pole surface exploration. Following the conclusion of the IA, JAXA and ISRO will jointly conduct feasibility study and draft a plan of the Joint Lunar Polar Exploration from both technical and scientific aspects. The joint study will include possible mission objectives and operation concepts, and both agencies will work out the plan targeting the end of JFY 2018.

#### **Vector Announces Selection of Construction Team, Begins Production of First Orbital Vehicle**

December 6, 2017 – Vector, a nanosatellite launch company comprised of new-space and enterprise software industry veterans from SpaceX, Virgin Galactic, McDonnell Douglas, Boeing, Sea Launch and VMware, announced it has selected a final construction team to build its state-of-the-art launch vehicle manufacturing facility in Tucson, Ariz. Vector selected Holladay Properties as the lead developer on the project, Barker Contracting as the contractor, and architects from Swaim Associates LTD to carry out Vector's vision for the new factory. Founded by the original founding team of SpaceX, Vector is a disruptive company that connects space startups and innovators with dedicated, affordable and reliable launch services, enabling platforms and vehicles to access space efficiently and in a more optimized way than ever before possible.

#### **LM-3B Launches Alcomsat-1 Satellite for Algeria Successfully**

December 12, 2017 – The Alcomsat-1 Communications satellite was successfully launched for Algeria from Xichang Satellite Launch Center (XSLC) aboard a Long March-3B launch vehicle. This launch is conducted in accordance with the Alcomsat-1 satellite program contract in December 2013, which is signed by China Great Wall Industry Corporation (CGWIC), subordinated to China Aerospace Science and Technology Corporation (CASC), and Algeria Space Agency (ASAL). Alcomsat-1 satellite is designed and manufactured by China Academy of Space Technology (CAST). The satellite is based on the DFH-4 platform with a lift-off mass of 5,225 kg and a design life of 15 years. Alcomsat-1 satellite is equipped with 33 operational transponders (19 in Ku-band, 12 in Ka-band and 2 in L-band) onboard, and will be located at 24.8° West longitude geostationary orbit. It will be mainly used in the fields of broadcast, emergency communications, remote education, e-government, enterprise communications, satellite broadband, and satellite based augmentation system application, etc.

#### **SSL to Provide Access to Space for Small Satellite Constellation**

December 12, 2017 – SSL, a business unit of Maxar Technologies (formerly MacDonald, Dettwiler and Associates Ltd.), announced that it has partnered with a team at NASA's Jet Propulsion Laboratory (JPL) and the University of Michigan (UM) selected by the agency to conduct a Phase A mission study under NASA's Explorers Program. SSL's role in the mission, called the Sun Radio Interferometer Space Experiment (SunRISE), is to provide a ride beyond geosynchronous orbit (GEO) for a constellation of science-gathering small satellites. SSL will use its Payload Orbital Delivery System (PODS) technology to dispense the small satellites on-orbit as free-flyers. Mission Principal Investigator Justin Kasper, Associate Professor in the University of Michigan's Climate and Space Sciences and Engineering Department, will lead the SunRISE team that will use the small satellite constellation, operating as a synthetic aperture radio telescope, to address the critical heliophysics problems of how solar energetic particles are accelerated and released into interplanetary space. Heliophysics is the study of how the Sun affects the environment of the Solar System.

#### **Arianespace Orbits Four More Galileo Satellites as Ariane 5**

December 13, 2017 – Arianespace has successfully launched satellites 19, 20, 21 and 22 in the Galileo constellation, using an Ariane 5 heavy launcher on behalf of the European Commission (DG GROW) and

under a contract with the European Space Agency (ESA). The launch took place on December 12, 2017 from the Guiana Space Center (CSG), Europe's Spaceport in French Guiana. Galileo is Europe's own global navigation satellite system (GNSS). Under civilian control, Galileo offers guaranteed high-precision positioning around the world. Its initial services began in December 2016, allowing users equipped with Galileo-enabled devices to combine Galileo and GPS data for better positioning accuracy. The complete Galileo constellation will comprise a total of 24 operational satellites (along with spares); 22 of these satellites have already been orbited by Arianespace.

#### **Airbus Selected by ESA for Copernicus Data and Information Access Service (DIAS)**

December 14, 2017 – Airbus has been selected by the European Space Agency (ESA) to be one of four suppliers for DIAS, the Copernicus Data and Information Access Service. DIAS will make data and information easily available to users through a cloud computing architecture enabling enhanced coordination and cross-fertilization at European Union (EU) level and amongst initiatives at Member State or regional level. Copernicus is the most ambitious Earth observation program to date providing accurate, timely and easily accessible information to improve the management of the environment, understand and mitigate the effects of climate change and ensure civil security. The volume of data produced by this program is enormous: in one year, the Sentinel satellites have provided the equivalent of 50 years of ENVISAT mission data, ESA's previous environmental satellite. To foster data dissemination and to answer a strong need for simplification, the EC and ESA have decided to offer users the capability to exploit Copernicus data and information without having to manage transfer and storage on their own computer systems.

#### **Arianespace to Launch Germany's Heinrich Hertz Satellite on an Ariane 5**

December 14, 2017 – The DLR German Aerospace Center, OHB SE and Arianespace have announced the signing of a launch contract for Germany's Heinrich Hertz (H2Sat) technology demonstrator satellite built by OHB System AG. The satellite will be orbited by an Ariane 5 heavy-lift launcher from the Guiana Space Center, in Kourou, French Guiana, between mid-2021 and the end of 2022. As a technology demonstrator for the German national space program, the H2Sat mission is designed to support the development and testing of new space communications technologies and transmission schemes. Heinrich Hertz's communications payload showcases technology that can make satellites more adaptable to changing needs on the ground. H2Sat will be used to test or flight-qualify some 20 different components or subassemblies, new technologies and transmission schemes developed by German industry and the scientific community. It also will carry a military communications system to be used by the Bundeswehr (the federal armed forces of Germany). Built by OHB System AG in Bremen, H2Sat is based on the company's SmallGEO platform, developed through the European Space Agency's ARTES 11 program. It will weigh 3,450 kg and will be launched on an Ariane 5. The satellite will be transferred to a geostationary orbit.

#### **Thales Alenia Space Partners in NextSTEP-2 Adventure to Support Human Spaceflight in the Vicinity of the Moon**

December 14, 2017 – Thales Alenia Space has signed three contracts in the frame of Next Space Technologies for Exploration Partnerships (NextSTEP-2) activities with Boeing, Lockheed Martin and Orbital ATK, to develop capabilities that can meet NASA human space exploration objectives while also supporting industry commercialization plans. Based on a public-private partnership model, the next step for human spaceflight is the development of deep space exploration capabilities to expand architectures to support more extensive missions in the proving ground around and beyond cis-lunar space and then towards deep space and, ultimately, Mars. In addition NASA hopes to incorporate modules and parts developed in the NextSTEP project into the follow on Deep Space Gateway and Deep Space Transport projects. An important part of NASA's strategy is to stimulate the commercial space industry while leveraging those same commercial capabilities through partnerships to deliver mission capabilities. In this frame, Thales Alenia Space has collaborated with a couple of the selected US Companies, namely Orbital ATK and Lockheed Martin, since the very beginning of NextSTEP. For NextSTEP-2, a third contract has been added with Boeing.

#### **Important Milestone Reached in the Construction of the Ariane 6 Launch Facilities**

December 15, 2017 – The new European launch vehicle ARIANE 6 is to embark on its maiden flight from the Kourou space center in French Guiana in July 2020. MT Aerospace AG and its Mainz-based subsidiary MT Mechatronics GmbH are constructing the mechanical launch facilities (ELA 4) in the Amazon region in

a contract for the French space agency CNES. With the successful completion of the critical design review at the end of November, Europe has come one important step closer to completing the ground facilities for the new launch vehicle. Composed of representatives from the European Space Agency ESA, ArianeGroup, CNES, Apave and Socotec, the review board approved the detailed design for the launch facilities submitted by MT Aerospace und MT Mechatronics and thus gave the go-ahead for construction to commence in Kourou. The contract covers the 650-ton launch pad with the mobile pallet systems used to bring the solid-rocket booster to the launching site as well as the umbilical tower with a height of roughly 66 meters and the exhaust gas deflector. The launch table is ready and completed and has passed acceptance testing at the plant last week. It is to be transported to the spaceport in early 2018. The first parts of the supply tower are already on the way to Kourou.

#### **SpaceX to Launch Korea Pathfinder Lunar Orbiter in 2020**

December 15, 2017 – The Korea Aerospace Research Institute (KARI) selected SpaceX as launching company of Korea Pathfinder Lunar Orbiter (KPLO) to be launched in 2020. The KPLO will be equipped with a total of six payloads, including five domestic development payloads (high-resolution camera, wide-field polarized camera, lunar gamma-ray spectrometer, moon magnetic field detector, and space Internet) and one NASA development payload (shadow camera). And the test lunar orbiter will go into the moon orbit with its own propulsion system after launch, and plan to transmit the high resolution image data and observation data to the earth by going around the Moon polar orbit. The present test lunar orbiter is undergoing the detailed design after completion of the PDR in September 2017. After the completion of the integrated electrical function test, the structural model verification test and the total assembly and testing of the flight model, it will be launched in 2020.

#### **ArianeGroup to Start Production of the First Ariane 62**

December 19, 2017 – With the successful conclusion of Maturity Gate 6.2, ArianeGroup and its industrial partners are moving into an important new phase in the development of Ariane 6, a flagship European Space Agency (ESA) program. This review confirmed that the industrial process of Ariane 6 is mature enough to start construction of the first launcher, in line with the program's objectives. Ariane 6 is specifically designed to be able to respond to evolving market demands. It will be a versatile, modular, competitive launcher, available in two versions, Ariane 62 and Ariane 64, in order to guarantee the continuity of European access to space.

#### **SITAEL Signs a Contract with Italian Space Agency for the PLATiNO Small Satellite Programme**

December 19, 2017 – SITAEL and Italian Space Agency signed the Prime contract for the PLATiNO Programme. PLATiNO represents the first Italian answer to the Space Economy, aiming to the development of a new generation of Multi-purpose 200kg small satellites for innovative multi-mission applications. For this space programme, SITAEL has built up an industrial team maximizing the synergies among the high-level key competences and proven heritage of the most important Italian Space industries, such as Thales Alenia Space, Space Engineering and Leonardo.

#### **Arianespace Chosen by ESA to Launch CHEOPS, the CHAracterising ExOPlanet Satellite**

December 20, 2017 – Arianespace has signed a contract with the European Space Agency (ESA) to launch CHEOPS (the CHAracterising ExOPlanet Satellite), which is its upcoming exoplanet mission as part of ESA's science program. The satellite will be launched from the Guiana Space Center, between late 2018 and early 2019 using a Soyuz launch vehicle. CHEOPS will target nearby, bright stars already known to have planets orbiting around them. Through high-precision monitoring of a star's brightness, scientists will examine the transit of a planet as it passes briefly across the star's face. In turn, this will allow an accurate measurement of the planet's radius. For those planets with a known mass, the density will be revealed, providing an indication of the internal structure. Based on an Airbus Defence and Space satellite platform, CHEOPS will weigh about 300 kg. at launch, and will be injected into a 700-km.-altitude Sun-synchronous dawn-to-dusk orbit around Earth, inclined by approximately 98° to the Equator as it circles the globe from pole to pole.

#### **Airbus Delivers GOCI-II Instrument to the Korean Aerospace Research Institute**

December 21, 2017 – After four months at the Korean Aerospace Research Institute (KARI) test facilities in Daejeon, South Korea, during which intensive testing was performed by a joint team of KARI and Airbus Defence and Space, the GOCI-II ocean colour imaging instrument has been delivered to the customer. GOCI-II will be mounted on the GK2B satellite and will be launched in 2019 from Kourou on an Ariane 5. From

its geostationary orbit, GOCI-II will analyze the colour of the ocean around the Korean peninsula, in order to detect, monitor, quantify and predict short-term variations in the characteristics of the coastal regions, for scientific and industrial purposes. GOCI-II offers greater functional, geometrical and radiometric performance than its predecessor, launched in 2010 on the COMS satellite. It will acquire images of the Earth in 12 spectral bands between 380 nm and 865 nm, with resolution of about 250 m at Nadir. It will also be able to provide images of the Earth's entire disk as well as the Moon and stars for calibration.

#### **Falcon 9 Lofts Fourth Batch of Iridium NEXT Satellites**

December 22, 2017 – Iridium Communications Inc. announced that SpaceX successfully launched the fourth set of 10 Iridium NEXT satellites into orbit from Vandenberg Air Force Base in California. Today's launch marks the midway point of the Iridium NEXT launch program, and was the first Iridium launch to use a SpaceX flight-proven rocket. The first stage booster for Iridium-4 was previously used for Iridium-2, making Iridium the first company to reuse the same rocket booster. Each launch strategically delivers new satellites to specific orbital planes, so that the complete Iridium NEXT constellation will be operational as soon as possible after all launches are complete. The Iridium network is comprised of six polar orbiting planes, each containing 11 operational crosslinked satellites, for a total of 66 satellites in the active constellation. Of the 10 Iridium NEXT satellites launched today, nine were delivered to their operational orbital plane, and the tenth is set to drift to an adjacent orbital plane. Once fully deployed, Iridium NEXT will blanket the earth with satellite connectivity, enabling broadband connectivity from even the most remote parts of the planet.

#### **Successful Launch, H-IIA Launch Vehicle No. 37 Encapsulating SHIKISAI and TSUBAME**

December 23, 2017 – Mitsubishi Heavy Industries, Ltd. and JAXA successfully launched H-IIA Launch Vehicle No. 37 (H-IIA F37) (with upgraded function) which encapsulates the Global Changing Observation Mission - Climate "SHIKISAI" (GCOM-C) and the Super Low Altitude Test Satellite "TSUBAME" (SLATS) at 10:26:22, 2017 (JST) from the JAXA Tanegashima Space Center. The launch and flight of H-IIA F37 proceeded as planned. So did the separation of SHIKISAI and TSUBAME, which was confirmed respectively at approximately 16 minutes and 13 seconds and 1 hour and 47 minutes 59 seconds after liftoff.

#### **China Successfully Launches Second Land Surveying Satellite**

December 23, 2017 – China has successfully launched its second Land Surveying Satellite LKW-2 (also known as Yaogan Weixing-32) into a preset orbit from Jiuquan Satellite Launch Center in the Gobi desert. The satellite will be used for remote sensing exploration of land resources. It was launched on board of Long March-2D rocket. The LKW-2 has been developed by China Academy of Space Technology (CAST).

## **EXECUTIVE MOVES**

#### **Rick Sanford Joins BridgeSat as VP of Strategy and Business Development**

December 5, 2017 – BridgeSat announced that satellite, terrestrial and cybersecurity veteran Rick Sanford has joined the company as vice president of strategy and business development. Sanford's 30-plus years of design and integration experience will help BridgeSat revolutionize global communications with an advanced optical communications network designed to serve the unique needs of LEO satellites. BridgeSat is developing a global optical communications ground network to serve the commercial satellite community. This network will consist of multiple optical ground stations strategically located in areas that have low clouds, with good access to terrestrial networks and optimized to serve LEO, ISS and GEO orbits.

#### **Imagine Communications Announces CEO Transition**

December 6, 2017 – Imagine Communications, a portfolio company of The Gores Group and a leader in empowering the media and entertainment industry through transformative technology innovation, announced that Tom Cotney has been named CEO of the company, effective immediately. Current CEO Charlie Vogt is joining The Gores Group as a Senior Advisor to continue to drive M&A and business development activities at Imagine. The two executives will work closely to continue the momentum and growth at Imagine Communications while also ensuring a seamless leadership transition. Cotney has spent 20 of his 30-year career partnering, selling to and competing in the telecommunications and mobile technology industries. He served as General Manager of the Communications Sector at IBM Global Services and has been a CEO and board member for a number of privately held companies. Cotney will also join the board of directors of Imagine.

### **Globecast Promotes Sylvain Merle to Chief Operating Officer**

December 14, 2017 – Globecast, the global solutions provider for media, announced the promotion of Sylvain Merle to Chief Operating Officer, effective immediately. He will replace Philippe Fort, who previously held that role for 16 years before announcing his retirement earlier this year. Merle joined Globecast in January 2017 as CTO, ensuring that the company's technical and economic approach with clients is aligned with the latest industry developments. He will continue to carry out that role. In his new post, Merle is responsible for driving operations globally across distribution, contribution and media management to ensure the highest level of service for Globecast customers. He will also ensure the company is correctly structured to provide end-to-end services for customers, continuing to develop Globecast's technical infrastructure and operations to precisely align with customers' requirements.

### **Günther Hasinger Appointed as ESA Director of Science**

December 15, 2017 – The Council of the European Space Agency announced the appointment of Günther Hasinger as the next Director of Science. He will succeed Alvaro Giménez, who has served in the position since 2011. Prof. Hasinger is currently Director of the Institute for Astronomy at the University of Hawaii. Dr. Günther Hasinger is a world leader in the field of X-ray astronomy and in the study of black holes, objects whose gravity is so strong that not even light can escape from them. He received his physics diploma from Ludwig Maximilian University (LMU) of Munich, and in 1984, he earned a PhD in astronomy from LMU for research done at the Max Planck Institute for Extraterrestrial Physics (MPE).

### **Intelsat Appoints Satellite Executive Samer Halawi Chief Commercial Officer**

December 20, 2017 – Intelsat S.A. announced the appointment of satellite industry executive Samer Halawi to Chief Commercial Officer (CCO). Assuming the role effective January 9, 2018, Halawi will lead an organization spanning the Company's global commercial operations, including the broadband, mobility, media, and government businesses, as well as the sales and marketing teams. Intelsat created the new role to accelerate the commercialization of its Intelsat Epic<sup>NG</sup> high throughput fleet and build additional focus on the introduction of new managed services, unlocking new applications to drive company growth. Halawi will also be responsible for leading the Company's engagement with key business partners such as OneWeb and Kymeta as well as with leading distributors and VARs across sectors. Most recently serving as CCO of LEO start-up OneWeb, Halawi also served for six years as the Chief Executive Officer for Thuraya Telecommunications Company.

### **Cable & Wireless Announces Appointment of New CEO, Inge Smidts**

December 20, 2017 – Cable & Wireless Communications (C&W) announced the appointment of Inge Smidts as Chief Executive Officer. She is replacing John Reid who announced earlier this month that he will step down from the position of CEO in early 2018. Smidts joins C&W from Liberty Global where she most recently held the position of Chief Marketing Officer. Prior to her role at Liberty Global, Smidts was Senior Vice President - Residential Marketing and a member of the Executive Team at Telenet Group. While there, she was responsible for Go-to-Market reporting and overseeing the commercial strategy for Telenet's business.

### **ABS Appoints Jim Simpson as the New Chief Executive Officer**

December 21, 2017 – ABS announced the new appointment of Jim Simpson as Chief Executive Officer (CEO). Jim, reporting to the Board of Directors, will lead the management team to drive changes to enhance shareholder value and continue to partner with ABS customers and vendors to deliver unparalleled business results. Prior to joining ABS, Jim Simpson spent 35 years at The Boeing Company in various leadership positions in the Satellite and Launch Business. After retirement from Boeing, he served 2 years as the Senior Vice President for Strategy and Business Development and was an Officer of Aerojet Rocketdyne focused on propulsion and power systems for satellites, rockets and defense productions.

## **REPORTS**

### **Global V-Band Satellite Deployments to Generate over \$25 Billion**

December 6, 2017 – NSR's V-band Satellite Markets report projects the installed base for key verticals could reach 2.6 million active V-band sites by 2030, generating over \$25.8 billion in cumulative revenue. The market is speculative; however, the opportunity exists such that market players currently vetting V-band's prospects should consider launching programs supporting multiple Tbps of demand. More than 5

Tbps of demand could be generated from 2023 to 2030 alone; this does not include Mobility, Government & Military and other demand segments that can prove to be high revenue generators as well.

### **Euroconsult's Latest Report Targets Satellite Value Chain**

December 6, 2017 – Euroconsult's latest report, Satellite Value Chain: The Snapshot 2017, brings together a selection of key trends and indicators on supply and demand from Euroconsult's latest reports complemented by additional dedicated research on the commercial satellite business to give a snapshot of the commercial satellite value chain. Along with the introductory/overview section, the report includes sections on satellite manufacturing & launch services, satellite communications, Earth observation, and satellite navigation.

### **NSR's Government and Military Satellite Communications Report**

December 12, 2017 – NSR's newly released Government and Military Satellite Communications, 14th Edition report finds ongoing and expanding revenue growth across the global government and military markets. Enabling connectivity on legacy platforms will continue to be the name of the game. Unmanned Aircraft Systems, Comms-on-the-Pause, and Maritime will comprise more than 60% of revenue growth over the next decade. With nearly \$9B in retail revenues projected by the end of 2026, questions remain over the role of future proprietary military capacity, how a refocus on Asia Pacific will shape deployment strategies, and which market/s provide the best role for commercially-sourced vs. military provided connectivity.

### **Constellations to Drive Smallsat Markets through Next Decade**

December 18, 2017 – NSR's newly released Small Satellite Markets, 4th Edition (SSM4) report identifies growth across the 1-500 kg smallsat market with 5,000 satellites launching within the next decade, generating cumulative revenues of \$25B in manufacturing and launch services. Constellations remain the strongest driver of market growth; 70% of satellites to launch will be part of such a group of 5 or more satellites with the same mission. North America and Asia present the largest near-term opportunities, building on well-developed satellite ecosystems and leveraging the growth prospects in Earth Observation, Communications, and Science applications.

## **UPCOMING EVENTS**

**CABSAT 2018**, 14-16 January, Dubai, UAE, [www.cabsat.com/apsc](http://www.cabsat.com/apsc)

CABSAT is the dominant broadcast, digital media and satellite communications technology platform for anyone wishing to target broadcasters, production houses and studios, animation houses, content owners and creators, software developers, telcos, systems integrators and distribution channels in the MEASA region. If you're in the business of Content Creation, Broadcast, Satellite, Music, Radio, Film make sure you're at CABSAT 2018.

**PTC'18**, 21-24 January, Honolulu, Hawaii, USA, [www.ptc.org/ptc18/](http://www.ptc.org/ptc18/)

**Global Space & Technology Convention 2018 (GSTC 2018)**, 1-2 February, Singapore, [www.space.org.sg](http://www.space.org.sg)

**SATmob 2018**, 1-2 February, Singapore, [www.talksatellite.com/satmob2018.htm](http://www.talksatellite.com/satmob2018.htm)

**SmallSat Symposium 2018**, 5-8 February, Silicon Valley, CA, USA, <https://smallsatshow.com>

**ABU Digital Broadcasting Symposium 2018**, 5-8 March, Kuala Lumpur, Malaysia, [www.abu.org.my/dbsymposium](http://www.abu.org.my/dbsymposium)

**Convergence India 2018**, 7-9 March, New Delhi, India, [www.convergenceindia.org](http://www.convergenceindia.org)

Convergence India is the only platform in India which demonstrates convergence of technologies in Telecom, IT, Broadcast & Digital media sectors. The three-day exhibition and concurrent conference sessions provides an excellent networking opportunity for speakers, visitors and delegates. This platform attracts high quality exhibitors to showcase their expertise and identify the thriving business opportunities in India.

**Satellite 2018**, 12-15 March, Washington DC, USA, [www.satshow.com](http://www.satshow.com)

**Asia Pacific Maritime**, 14-16 March, Singapore, [www.apmaritime.com](http://www.apmaritime.com)

**Telecoms World Asia 2018**, 19-20 March, Bangkok, Thailand,  
[www.terrapinn.com/conference/telecoms-world-asia/](http://www.terrapinn.com/conference/telecoms-world-asia/)

**MilSatCom Asia-Pacific 2018**, 14-15 May, Singapore, [www.smi-online.co.uk/defence/asia/milsatcom-asia](http://www.smi-online.co.uk/defence/asia/milsatcom-asia)

**KOBA 2018**, 15-18 May, Seoul, Korea, [www.kobashow.com](http://www.kobashow.com)

**Australasia Satellite Forum 2018**, 22-23 May, Sydney, Australia, [www.talksatellite.com/EVENTS.htm](http://www.talksatellite.com/EVENTS.htm)

**VIETNAM ICTCOMM 2018**, 7-9 June, Ho Chi Minh City, Vietnam, [www.ictcomm.vn/en/home](http://www.ictcomm.vn/en/home)

**CASBAA Satellite Industry Forum**, 25 June, Singapore, [www.casbaa.com/events/list/](http://www.casbaa.com/events/list/)

**CommunicAsia 2018**, 26-28 June, Singapore, [www.communicasia.com](http://www.communicasia.com)

**ConnecTechAsia 2018**, 26-28 June, Singapore, [www.connectechasia.com](http://www.connectechasia.com)

### **Editorials and Inquiries**

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

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