February, 2022

SPACE & SATELLITE

Updates from the SA-ME-NA Region and Beyond

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Bahrain's First-Ever Satellite Launched into Orbit

A collaborative satellite launch by the UAE and Bahrain has "successfully launched into orbit" from the International Space Station, according to an Emirati state media agency WAM report. The Light-1 CubeSat was launched in cooperation with the Japan Aerospace Exploration Agency (JAXA) from the Tsukuba Space Centre (TKSC) after the UAE and Japan signed a cooperation agreement in 2016. The satellite will monitor and study Terrestrial Gamma-ray Flashes (TGFs) from thunderstorms and lightning, marking the region's "first scientific mission," according to WAM. High-energy gamma-ray emissions reportedly impact atmosphere, air traffic and human health. Flight crew are affected more commonly since these rays are known penetrate aircraft structures, reported WAM. It was developed jointly by the UAE Space Agency, Bahrain's National Space Science Agency, Khalifa University of Science and Technology, and New York University (NYU) Abu Dhabi. Data gathered from the Light-1 CubeSat aims to leverage space science to support sustainable economic growth reported WAM. This will be shared globally to "support scientific analysis and encourage cooperation" among researchers. "As this UAE-Bahraini nanosatellite reached its orbital position, we believe this collaboration initiative will stand out as the best example of what can be achieved by the scientists in the Arab world," said Dr. Arif Sultan al-Hammadi, Executive Vice-President of Khalifa University according to WAM. Salem Butti al-Qubaisi, Director-General of UAE Space Agency, said in a statement to WAM: "Coming close on our recent success with the Emirates Mars Mission, and our first space astronaut Hazza al-Mansouri's journey to the International Space Station, this is an endorsement of our achievements in the cosmos."

OneWeb Launches 34 Satellites, Bringing Constellation to 428

OneWeb confirmed the successful deployment of 34 satellites by Arianespace from the Guiana Space Centre in Kourou, French Guiana. The launch marks OneWeb's first in 2022 and 13th overall, bringing its total in-orbit constellation to 428 satellites. It represents 66 percent of OneWeb's planned 648 LEO satellite fleet that will deliver high-speed, low-latency global connectivity. OneWeb notes that it has signed new distribution partnership agreements with several companies in the last month – including Hughes Network Systems, Marlink, and Field Solutions Holding. Neil Masterson, OneWeb CEO, commented: "Our first launch of the year marks our significant progress in completing a truly global LEO network later in 2022. We continue to see growing demand for OneWeb's industry-leading services as we look forward to delivering on our ambition to build robust, secure, and global access to broadband services."

SpaceX Launched 50 More Starlink Satellites from Vandenberg

SpaceX has launched 50 Starlink satellites from Space Launch Complex 4 East (SLC-4E) at Vandenberg Space Force Base in California. The first stage was recovered on a drone ship in the Pacific. This was the eight launch of 2022 and the fourth flight for the Falcon 9 first stage booster supporting this mission, which previously supported Sentinel-6 Michael Freilich, DART and one Starlink mission. Starlink service is now available in Brazil and Bulgaria, bring the number of countries with Starlink service to 29.

Bangladesh Signs Deal with Russia's Glavkosmos to Send Bangabandhu-2 Satellite to Space

Bangladesh Satellite Company Limited and Glavkosmos, a unit of Russia's state space corporation Roscosmos, signed the deal in a virtual event on Wednesday, Post and Telecom Minister Mustafa Jabbar said. Dmitry Loskutov, CEO of Glavkosmos JSC, and Shahjahan Mahmood, chairman and CEO of BSCL, signed the memorandum. Jabbar witnessed the signing. Bangladesh's first satellite, Bangabandhu Satellite-1, was made by France's Thales Alenia Space and a SpaceX rocket blasted off from Kennedy Space Center in the US on May 12, 2018.Jabbar described the deal for a second satellite three and half years after the launch of the first one as a "new milestone". The government's electoral manifesto for the telecom sector before the 2018 polls included a third submarine cable connection, fifth generation or 5G communication system and a second satellite, the minister said. The work on the second satellite had begun in 2019 and officials had expected the launch within 2023. Asked if it will be possible to launch the satellite by 2023, Jabbar said, "We are trying. But it's a technical matter. You've seen even the launch of Bangabandhu Satellite-1 was delayed at the last moment after all preparations were completed. We are ready again. Let's see what happens." The government had first appointed a consultant and finalized the type of the satellite after reviewing its report. "After that, we decided whom we would appoint to do it and what would be the scope of cooperation. Now the memorandum has been signed," the minister said. The memorandum will be valid until the end of 2026, Glavkosmos said in a statement. "The Parties express their intentions to establish partnership relations to develop long-term, effective and mutually beneficial cooperation in the field of promotion of products and services of the Russian space industry in the People's Republic of Bangladesh including manufacturing and launch of Bangabandhu Satellite-2 Earth observation satellite system, manufacturing of ground infrastructure (satellite ground stations) for acquiring Earth observation data from the Russian and foreign spacecraft, launch services, educational programs in space domains, commercial orbital flights and consulting services," it added, citing the memorandum.

Surrey Satellite to Be Launched By SpaceX

Satellites constructed by a Surrey firm are to be sent into orbit by Elon Musk's SpaceX firm. The launch of Surrey Satellite Technology Limited's (SSTL), thermal data collection satellite, is the first in a planned constellation of seven UK built, low Earth orbiters. It will be launched aboard SpaceX's Falcon 9 rocket later this year. SpaceX is the private sector space exploration firm founded by Elon Musk. The Surrey based firm, which employs 380 people, built the satellites for fellow UK space firm, Satellite Vu. One hundred people were involved in the construction of the space technology which designers describe as the: "world's highest resolution thermal imaging satellite." SSTL was founded in 1980. There are currently 14 SSTL built satellites operated from their spacecraft operations center. One of which has been in orbit for 35 years. The satelliteVu project will see the newly constructed models collect thermal data in a bid to help lower emissions and tackle global warming. The satellites will be capable of doing so over any location on the planet. The full constellation, when operational, will have the ability to measure the heat signature of any building multiple times a day. This allows Satellite Vu to provide near real time insights on building heat loss, energy optimization investments and an ability to offer substantial cost saving benefits to both public and private sectors. SatelliteVu designed the craft with a 3.5m resolution mid-wave infrared imager with video capability and a temperature sensitivity of less than 2 degrees Celsius. The satellite video generation capability adds unique advantages over traditional imagery, allowing for the detection of highly dynamic features and the building of 3D profiles. This permits for a wide variety of applications, from monitoring the pollution of waterways from industrial processes, to reducing the cost of heating buildings, increasing energy efficiency, or assessing the activity status of solar farms among others.

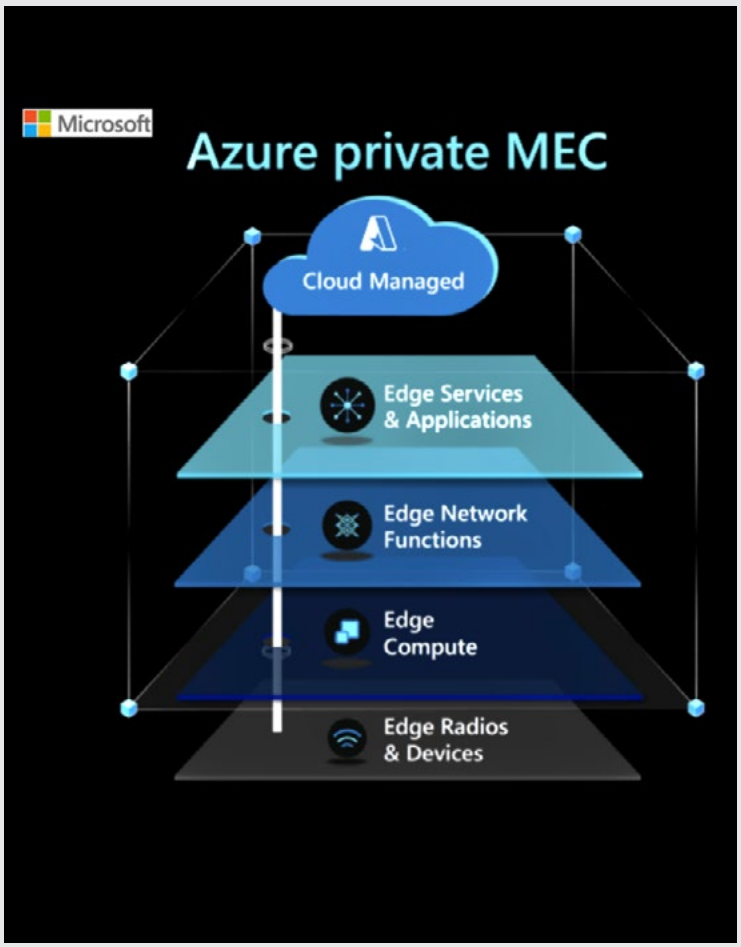
Jio, SES Form Satellite Broadband Venture

India's red hot satellite internet sector received a boost, with Jio Platforms forging a joint venture with Luxembourg-based specialist SES to offer high-speed broadband connectivity to retail and enterprise customers, and for mobile backhaul. Jio Platforms will take a 51 per cent stake in Jio Space Technology and SES the remaining 49 per cent. The venture will use SES' multi-orbit space networks combining geostationary and medium Earth orbit satellite constellations to deliver speeds of up to 100Gb/s. The business will also develop gateway infrastructure across India. Jio Platforms is the digital services arm of Reliance Industries: it will be the anchor customer of Jio Space Technology and entered into a multi-year capacity purchase agreement with a total contract value of about $100 million. In a statement, Jio Platforms director Akash Ambani noted additional coverage and capacity offered by satellite communications services will enable it to connect the "remotest towns and villages, enterprises, government establishments and consumers to the new digital India". SES CEO Steve Collar added the tie-up is "a great example of how SES can complement even the most extensive terrestrial networks" to offer high-quality connectivity. Jio Space Technology will deliver SES' satellite data and connectivity services in India, except for some international aeronautical and maritime customers, which may be served directly by SES. Jio Platforms will offer managed services and gateway infrastructure operations services. Indian authorities last month approved a joint venture between Bharti Airtel and Hughes Network Systems to deliver broadband service via satellite. And satellite internet provider Starlink set up a local subsidiary in November 2021.

Thuraya Launches Its Innovative Push-to-Talk Communications Solution with Cobham SATCOM

Thuraya Telecommunications Company, the mobile satellite services subsidiary of the UAE's flagship satellite solutions provider, Al Yah Satellite Communications Company PJSC ("Yahsat" or, together with its subsidiaries, "the Group") listed on the Abu Dhabi Securities Exchange ("ADX") under (SYMBOL: YAHSAT) (ISIN: AEA007501017) today announced that it has launched its new IP-based radio communications solution, Thuraya Push-to-Talk (PTT). Thuraya PTT has been developed with Cobham SATCOM, a market-leading provider of satellite communications solutions to the maritime and land markets. The solution will enable users across a wide spectrum of industries to extend the range of their voice communications beyond line of sight (BLOS) wherever their assets and teams are located. Thuraya PTT is an IP-based radio communications solution that works in conjunction with any Thuraya Broadband terminal to establish a private network. It gives users the ability to combine and integrate different technologies such as 3G/LTE/LMR (Land Mobile Radio) via Thuraya's advanced satellite system for seamless voice and data communications. The new solution has been designed so that it is simple to use and guarantees secure interoperability among multiple users with different communication systems on land and at sea. The solution manages communications from multiple devices and locations and provide real-time, uninterrupted switching between satellite, cellular and LAN, ensuring cost efficient and reliable connectivity. Thuraya PTT is designed for mission critical operations to support organizations in remote areas that often struggle with a lack of reliable connectivity - particularly when there is an urgent need to communicate across different areas, countries or continents. Thuraya's PTT service enables organizations to overcome this challenge, enhancing overall workforce productivity and safety as a result. Sulaiman Al Ali, Chief Executive Officer at Thuraya, said: "We are proud to announce the launch of the Thuraya Push-to-Talk solution today. Satellite connectivity and push-to-talk technology will provide unparalleled support to a wide range of sectors—most of which are currently being served and supported by Thuraya—by boosting efficiency, safety and security for troops and staff operating on-the-ground. The market has clearly shown a demand for PTT services which enables users to communicate through a single solution. We anticipate that market potential for such a service will continue to grow." "Our partnership with Cobham SATCOM has been a key component of this successful launch. It has enabled us to broaden and enhance our portfolio offering by creating a platform for further innovation and development of features and applications to increase our global market share. We're looking forward to more collaborations with Cobham SATCOM and reaching more milestones of this nature in the near future," he added. The global PTT (incl. hardware, solutions and services for all network types) market size is set to grow from USD 29.2 billion in 2021 to USD 45.2 billion by 2026, at CAGR of 9.1 % during this period, with the sectors of Public Safety, Government, Energy and Utilities occupying a significant proportion of growth. In addition, the global hybrid-satellite cellular terminal market is expected to reach around USD 700 million by 2031, with a CAGR of 22.81% during the forecast period 2021-2031. Thuraya PTT extends legacy push-to-talk capabilities to hybrid data networks such as terrestrial cellular networks where available, supplemented by the Thuraya satellite network where no terrestrial network coverage is present. With no user intervention required, the system automatically routes voice and data traffic via the least expensive and most reliable network available.

Intelsat and Microsoft to Demo Private LTE and 5G Network Using Global Satellite and Ground Network



Intelsat, operator of an integrated satellite and terrestrial network, reports the successful demonstration of a private cellular network said to be one of the first of its kind. The operator is collaborating with Microsoft Azure Private Multi-Access Edge Compute and FlexEnterprise using Intelsat's satellite-based global connectivity service. Held at Intelsat's office in McLean, Virginia, the demonstration establishes a reference architecture for deploying secure, high-performance private LTE and 5G networks and other cloud services over satellite networks to enterprise locations virtually anywhere globally, including those in remote and austere environments. The demonstration creates a private LTE service using Azure Private 5G Core deployed on an Azure Stack Edge device. Connectivity to the internet and Azure services is enabled by Intelsat's FlexEnterprise. Via the private cellular network, users can access local enterprise resources via SIM-authenticated connections to the Azure Stack Edge and access remote resources through the FlexEnterprise connection, the IntelsatOne global network and Azure. Additionally, the LTE network powers a Wi-Fi access point and IoT applications. "As enterprises look to private cellular networks to improve the reach, security, and quality-of-service over Wi-Fi-only local networks, the ability to support deployments at any site is crucial to creating a fully connected organization," says Jean-Philippe Gillet, SVP global sales media & networks, Intelsat. "The applications demonstrated here with Microsoft highlight the increased automation and standardization of enterprise data processing services that globally-available private cellular networks will enable. Support for high-bandwidth, low-latency networks is central to Intelsat's vision of an end-to-end ecosystem for a global software-defined 5G network." "At Microsoft, we are committed to enabling an ecosystem of satellite operators through collaborations such as this one with Intelsat. As the world continues to move to 5G, Microsoft's Azure Orbital platform, together with our Azure hyper-scale computing platform, allows operators to deploy and maintain faster, easier, and more cost-effective solutions anytime and anywhere," says Tom Keane, corporate vice president, Mission Engineering. Mobile Experts Inc. expects the global private LTE and 5G equipment and services market to grow at around 20% CAGR to about $10 billion (€8.91 billion) in 2025. Intelsat is one of the trusted integrated space and ground satellite networks with a 50-year record of delivering seamless and secure coverage across 200+ countries. Intelsat is building a unified global 5G network that will support virtually any access technology, enabling the next generation of global mobility, Internet of Things (IoT), and 5G services. Merging software-defined technology and multiple networks and orbits, we bring the world a single, more powerful way to connect easily.

EC Makes €6B Move in Space Race

The European Commission (EC) outlined a €6 billion investment plan to develop a new satellite system to provide connectivity to the continent and Africa, and support critical infrastructure and applications around economy, security and defence. The EC stated it would fund the move through a €2.4 billion contribution from the European Union (EU) from 2022 until 2027, with the rest coming from its budget, member states and private investments. When built, the system will add to the EU's other major satellite plays, including global navigation system Galileo and Copernicus, which is used for earth observation. The program will launch in 2023. The EC explained it wanted to use space-based connectivity as a "strategic asset" for the continent's resilience, enabling technological sovereignty, competitiveness and access to fast connectivity for people and businesses. As part of the initiative, system signals will be encrypted and also provide "connectivity over geographical areas of strategic interest", including Africa and the Arctic, reducing global reliance on Chinese-built infrastructure. Thierry Breton, Commissioner for the Internal Market, said space was playing a growing role in daily lives, in addition to "economic growth, our security and our geopolitical weight". He added the pan-European project would allow for many start-ups and the continent as a whole "to be at the forefront of technological innovation". The EC's initiative will join and compete with commercial satellite systems including Amazon's Project Kuiper and SpaceX's Starlink. There was also proposal by the EC for regulation of space traffic, seeking to improve management in light of what the regulator described as an exponential increase in the number of satellites in orbit. It aims to use this to protect its assets and ensure a safe, secure and sustainable use of space by establishing international partnerships.

EnduroSat and SayariLabs Partner to Launch Kenya's First Software-Defined Nanosat

Kenyan space company SayariLabs and EnduroSat have signed a commercial agreement to launch Kenya's first 3U software-defined nanosat called Taifa-1 ('one nation' from Swahili). Taifa-1 will be launched by SpaceX's Falcon 9 in Q4 2022. In the past decade, East Africa has been hit with heavy droughts and wildfires, causing water crises, and damages of local agriculture and food supplies. TAIFA-1 will be loaded with a hyperspectral, Earth-observation camera that will help customers with environmental, wildlife, agricultural monitoring, and land use mapping, in their mission of preventing calamities in the region. EnduroSat and SayariLabs signed an MOU, which marks another milestone in the successful partnership and upcoming joint space projects between the two companies. EnduroSat organised two-week educational training, dedicated to space systems and engineering, covering all aspects of mission analysis, design, and spacecraft assembly for the engineering team of SayariLabs. Commenting on the partnership, Aaron Nzau, Founder & CEO SayariLabs, said: "Over the past decades, space and satellite industries have been reserved for the wealthy and mighty. SayariLabs is on a mission of democratising these industries for all interested players in the African region and in making Kenya a space giant in the next generation. With the advancement of technology, this fantasy is quickly becoming a reality. Our partnership with EnduroSat, a leading company in this industry, is a major game-changer and it strengthens our hope and belief of being a major space and satellite solution provider in Kenya, the African region and other parts of the world." Raycho Raychev, Founder & CEO EnduroSat, added: "I am really proud to have the opportunity to support SayariLabs in their efforts to bring space closer to thousands of people in Kenya. Working alongside their team has been an amazing experience for us and I cannot wait to see the innovations and the positive impact that they plan to have, realized in practice. EnduroSat has been for a long time a true believer in open, responsible and accessible space and this is yet another step in this direction."

Marlink Gains SES Satellite Access

Network solutions firm Marlink signed a multi-million-euro agreement that will give its customers access to SES' next-generation system of satellites. Under the agreement, Marlink customers will gain access to SES' medium earth orbit constellation (MEO) of satellites known as O3b mPOWER, enabling dedicated connectivity services to customers with data-intensive needs. The system is scheduled to launch soon and become operational by the end of the year. O3b mPOWER is an upgrade over the previous first-generation iteration O3b MEO, through its use of software to deliver coverage and speeds of megabits to multiple gigabits per second. It will be augmented by Marlink's Smart Network solutions, and in turn, Marlink will be able to enhance its hybrid network solutions and offer customers differentiated and secure connectivity products. Customers earmarked to benefit from this deal are those in the humanitarian, energy, enterprise, mining, government, maritime sectors as well as superyacht customers. Customers in these segments require high download speeds and low latency to remain operational in remote locations. Marlink Group chief executive Erik Ceuppens said, "At Marlink we are driven by technology progress and committed to bring the full power of a connected and digital world to our customers' remote workplaces. This is why we are so excited to extend our long-term partnership with SES and to bring the game changing high-throughput low-latency capabilities of O3b mPOWER as part of Marlink's Smart Network solutions to our most demanding customers in all our market verticals." SES CEO Steve Collar added: "Fast, flexible connectivity represents an opportunity for all businesses – especially those operating in remote locations. Marlink's customers understand the strategic need for excellent connectivity, and the value of digitalization. SES's high-throughput, low-latency data connectivity represents a future-proof solution for these operators."

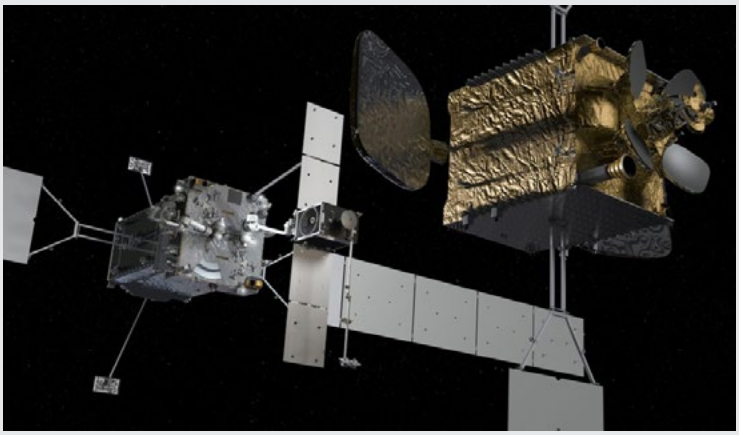
OneWeb Founder Plans Satellite IoT with US$50 Million Backing

A venture capital investor has pumped US$50 million into a space start-up founded by Greg Wyler, previously of O3b and OneWeb. E-Space says it is planning a constellation of 100,000 satellites, which will also gather up space junk on their way. Wyler said: "We've built sustainability into everything we do. We are designing our systems to not only prevent space debris generation, but to eventually actively reduce space debris so generations to come will be able to access the power of space." E-Space says it will be "a foundational platform to help governments and large companies build space-based applications in a capital-light manner" – a description that seems to indicate a satellite-based internet of things (IoT). It aims to "provide the world's first federated systems that can dynamically extend satellite capacity for a multitude of applications, ranging from secure communications to managing remote infrastructure". Wyler was one of the founders of O3b Networks – the abbreviation stands for "other three billion" – when its backers included Google and Liberty Global, as well as Luxembourg-based SES, which ended up in 100% control. Later he was one of the brains behind OneWeb, at first called WorldVu Satellites. But that went bankrupt in 2020 and was rescued by India's Bharti group and the UK government, with many of the initial investors – such as Qualcomm and Virgin Group – losing their money. The backer of Wyler's E-Space is Prime Movers Lab, a Wyoming-based investor whose interests span from agriculture to transport. Anton Brevde, partner at Prime Movers Lab, said: "Greg is an icon of space innovation with an unparalleled track record of pushing the industry forward by turning bold ideas into everyday reality." The $50 million investment fully funds E-Space's "beta 1" launch of its first test satellites in March 2022 as well as its second "beta 2" launch later this year, said E-Space. "Mass production is slated for 2023." Wyler said: "One of the best ways to understand and manage Earth is from space. We designed E-Space to democratize space, to enable the collection of continuous data about our planet with real-time information of sensors and devices across the world to combat climate change, and to upgrade our electric grids."

SpaceX Lands in Tonga to Reconnect Island

Elon Musk's satellite company SpaceX is aiding the effort to restore telecommunications to the island nation of Tonga after the country was struck by the after-effects of a volcanic eruption. Fiji's Attorney-General Aiyaz Sayed-Khaiyum posted on social media that the SpaceX team is in Fiji to set up a Starlink gateway station to reconnect Tonga, reported Reuters. Starlink is a division of SpaceX and is tasked with launching satellites and delivering high-speed broadband. The Hunga Tonga-Hunga Ha'apai volcano eruption destroyed Tonga's only fibre optic cable connecting to the internet and the rest of the world was greatly damaged by the eruption on Jan 15. It also caused a tsunami that destroyed villages and coated the capital city Nuku'alofa in ash. Tesla founder and CEO Elon Musk offered assistance on Twitter last month by sending Starlink terminals to the island. International calling returned to the nation last month, confirmed by Digicel, but only 400 calls could be made at one time. SpaceX joined a host of companies offering assistance to Tonga. Intelsat joined with Australian operator Telstra and New Zealand operator Spark to deploy emergency communications to support aid workers.

US Company Contracts SpaceX to Launch Second-Generation Satellite Servicing Spacecraft



SpaceLogistics, a unit of major US aerospace and defence group Northrop Grumman, has signed an agreement with space company SpaceX to launch the former's Mission Robotics Vehicle (MRV) in early 2024. The MRV is a second-generation development of SpaceLogistics' two Mission Extension Vehicles (MEV-1 and MEV-2). Like them, the MRV is intended to extend the operational life of orbiting satellites. Since 2020, the MEV-1 and MEV-2 have provided propulsion and pointing control to commercial satellites in geosynchronous equatorial orbit (GEO, also known as geostationary orbit). The MRV, however, will use a robotic arm to fit each client's orbiting satellite with a Mission Extension Pod (MEP). The MEP, also a product of SpaceLogistics, is a self-contained propulsion system, which can increase the life of a 2 000 kg GEO satellite by up to six years. The MEP will be owned and controlled by the client. Simultaneously with the MRV launch contract announcement, SpaceLogistics also reported that it had sold its first MEP, to Australian satellite owner and operator, Optus. The MRV will install an MEP on the Australian company's D3 satellite in 2025. "Our contracts with SpaceX and Optus are tangible evidence of our momentum and commitment to deliver second-generation on-orbit servicing technologies to the satellite industry," affirmed SpaceLogistics business development VP Joseph Anderson. "We are thrilled to have Optus as our premier MEP customer as we continue pioneering the future of space and expanding the realm of what is possible with on-orbit servicing and sustainment." Both the MRV and MEP passed their preliminary design reviews in the northern autumn of last year and are on course for their critical design reviews, during this year. When launched in 2024, the first MRV will carry several MEPs. In addition to fitting orbiting satellites with MEPs, the MRV will also be able to carry out detailed inspection, repair and relocation of satellites. It will be the first spacecraft capable of providing such services persistently, to GEO satellites. "Satellite owners are demonstrating enthusiasm and confidence for our life-extension solutions and the potential cost-savings they could provide," he highlighted. "Our Optus contract represents our third service contract with commercial satellite providers, and with several signed term sheets in queue our installation manifest for MEPs is already full for 2025 and nearly full for 2026."

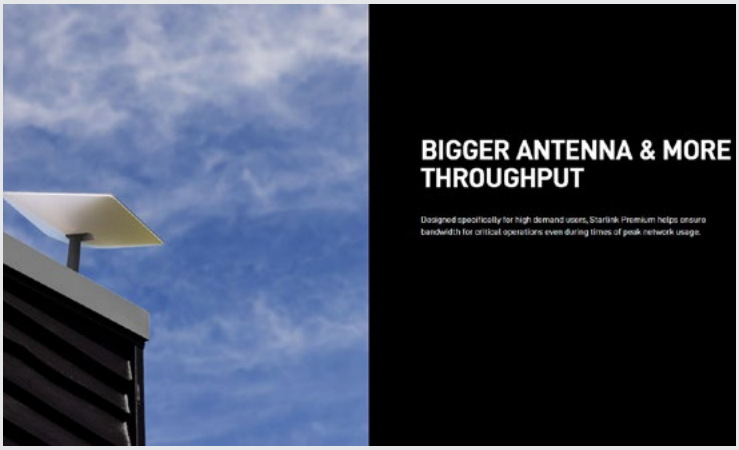
Orange, Sonatel and SES to Deploy O3b mPOWER Gateway in Senegal

African telco Orange and subsidiary Sonatel are partnering with SES to deploy and manage the O3b mPOWER constellation's first gateway in Africa, the companies announced Wednesday. The gateway will be located at the Sonatel teleport in the Senegalese territory of Gandoul and will deliver low-latency, and cloud-optimized connectivity services in Africa. This agreement follows after Orange signed on in 2020 as the first telco to adopt O3b mPOWER, with plans to start service from the constellation in the Central African Republic. SES said it will also use the gateway to support telemetry, tracking and command (TT&C) functions for the O3b mPOWER fleet. SES CEO Steve Collar said the gateway will enable Sonatel and Orange to deliver more bandwidth via O3b mPOWER to remote and underserved regions. "We continue to believe that satellite remains a promising technology and that the many innovations it currently showcases will give it an increasingly growing position in the telecommunication field, in Africa as well as other countries, " commented Jean-Luc Vuillemin, executive vice president of Orange International Networks. This partnership "will add a major new component to Orange's mission to build intelligent, open networks in order to foster usages and access to digital technologies for the greatest number of people." The Sonatel teleport was the site of Africa's first 30-meter satellite dish. Orange, Sonatel and SES also plan to establish a memorial on site at the Gandoul gateway to highlight the history of satellite connectivity in Africa.

Astrocast's Bidirectional Satellite IoT Service Launches Commercially

Astrocast has made its bidirectional satellite IoT service commercially available, aimed at connecting IoT devices globally for use outside of cell-based terrestrial networks. The service uses Astrocast's own recently launched nanosatellite constellation, in Low Earth Orbit, and it is bidding to support low-cost applications in asset tracking and telemetry. Target sectors include agriculture and livestock, utilities, transport and mining – involving remote locations such as mines, farmland, ships and oil platform. "So far, organizations have struggled to create a business case for deploying IoT solutions that can offer comprehensive global coverage, as well as efficient and reliable connectivity," said Fabien Jordan, CEO of Astrocast. "There is now an opportunity to use satellite IoT to increase visibility, transparency, and control over assets globally – and the potential for use cases across an array of sectors is almost limitless. What is more, in the past, these solutions have been too complex, costly, or simply unavailable. But, thanks to developments in satellite IoT technology, this is changing; and organizations that recognize the potential of going beyond terrestrial IoT will be able to create new competitive advantages too." Possible applications for SatIoT Jordan cites the example, in New Zealand, of the need to remotely track cattle to identify individual animals that are unwell, allowing fast intervention and removal from the herd, to both reduce the spread of disease and minimize the need for medication. According to the company, the nanosatellite constellation uses a patented data protocol that was developed for satellite-based IoT in partnership with Airbus, CEA/LETI, the European Space Agency, and Thuraya. It developed Astronode S, a module featuring low profile L-band antenna, ultra-low power consumption, and a small form factor. It will use Global L-Band frequencies and incorporate 256 bit encryption with multi-level security, says the company. Early in 2001, the Astrocast network went live with the initial launch of five nanosatellites. Since then, the constellation has grown, reaching ten with the launch of five more nanosatellites satellites onboard a SpaceX Falcon 9 rocket in June 2021. The Swiss company says it is working towards deploying a 100-satellite constellation by 2024.

Starlink Launches 500Mbps Premium Satellite Broadband Plan



SpaceX's Starlink ISP, which provides ultrafast low latency broadband across the world and the UK via a mega constellation of compact satellites in Low Earth Orbit (LEO), has soft launched an expensive new PREMIUM tier that will give you speeds of up to 500Mbps for $500 per month (£369) and $2,500 for the kit (£1843). At present Starlink has 1,871 LEOs in orbit (1,846 are active) and their initial plan is to deploy a total of 4,425 by 2024. Customers in the UK typically pay a hefty £89 a month, plus £54 for shipping and £439 for the kit (dish, router etc.). But for that you can expect unlimited usage, fast latency times of 20-40ms, downloads of c. 50-250Mbps and uploads of c.10-20Mbps (such figures should improve as the network grows). However, SpaceX's boss man Elon Musk has just announced the soft launch of a new PREMIUM tier on Starlink, and it's easy to see why they've written that in ALL CAPS. The new service costs a whopping $500 per month, which puts it well out of the reach of ordinary consumers. So what do you get for all that money? A much larger, more robust and more capable antenna, as well as the promise of download speeds in the 150-500Mbps range, uploads of 20-40Mbps and prioritized 24/7 support. In theory, the bigger antenna should also reduce the chance of disconnection events, which can sometimes cause problems on the existing kit. Starlink's website makes clear that their PREMIUM package is being aimed at "small offices, storefronts, and super users", although at that price in the UK you might be better off shelling out for a leased line or helping to self-fund a community FTTP build – where viable. One catch is that the new product isn't due to launch until Q2 2022, and we don't yet know exactly what its UK pricing will be. In theory, this service could actually be quite handy if used to supply capacity for a small office network in a remote area, but it'll only really make any kind of sense if the new antenna does help it to perform noticeably better than the existing consumer tier. The fact that the speed range starts at 150Mbps, which is well into the current consumer plan's range, may also make some potential customers nervous. One other issue is that we'd normally expect an expensive business tier to be backed up by a Service Level Agreement (SLA) or other advanced features, but aside from priority support, we couldn't see anything like that mentioned on their website. In order to be considered as a true business package, Starlink may need to go further.

Anatel Approves Satellite Applications from LEO Firms Starlink, Swarm

Brazil's National Telecommunications Agency (Agencia Nacional de Telecomunicacoes, Anatel) has issued Starlink Brazil Holding a license granting it 'satellite exploration rights. Starlink, which is backed by Elon Musk's SpaceX venture, intends to deploy and operate a non-geostationary Low Earth Orbit (LEO) satellite system comprising 4,408 satellites operating in the Ku- and Ka-bands for the provision of a fixed-satellite service constellation. The company's license runs until 28 March 2027. A second application – by California-based Swarm Technologies – was also approved by the watchdog. The concession, which was awarded to Swarm Brazil Satelites, expires on 7 September 2035. Swarm's constellation will comprise 150 satellites in non-geostationary orbit. The company seeks to provide bidirectional data transmission services for telemetry and telecommand oriented to IoT applications.

Lynk Global Inc. Signs Contracts with MNOs to Bring Satellite-Direct-To-Phone Connectivity to Seven Pacific and Caribbean Island Nations

Lynk Global, Inc. (Lynk), the world's leading satellite-direct-to-phone telecoms company, today announced that it has signed multiple commercial contracts with Mobile Network Operators (MNOs) covering seven island nations in the Pacific and Caribbean, including with Telikom PNG in Papua New Guinea (PNG) and bmobile in the Solomon Islands. Lynk has seen a clear acceleration of contract signings with island nations in response to the recent disaster in Tonga. Islands create many difficult challenges for mobile connectivity, including hard to reach locations that drive up the cost of tower construction, exposure to the harsh maritime environment that constantly degrades towers, increasing maintenance costs, and reducing reliability, and populations that are dispersed across large geographies. Lynk's satellites offer a constellation of cell towers in space that will enable PNG and Solomon islands' subscribers to stay connected across their nations' vast terrain simply using their standard unmodified mobile phones. PNG has a land mass spanning more than 460,000 kilometers and a population of nine million residents of which more than 80% are considered rural and have limited or no mobile phone connectivity with the current terrestrial cell tower infrastructure. The Solomon Islands are spread over 1.6 million kilometers and is the 22nd largest maritime exclusive economic zone in the world. Over 75% of residents of the Solomon Islands live outside urban areas, with 60% living in localities with fewer than 200 people. "Mobile phone connectivity across land and sea continues to be a major priority for Papua New Guinea and our neighbor the Solomon Islands," says Amos Tepi, Acting CEO, Telikom PNG. "As our government continues to re-evaluate the infrastructure needed to keep our people, including our fishermen, safe and connected. The option to bypass mobile base stations is increasingly relevant to our communities especially in far flung locations. Lynk's mobile phone connectivity – through mobile base stations-in-space via a network of satellites – is ideally suited to meet current and future demands of Papua New Guinea," he continues. With these agreements, Lynk eliminates much of the need to invest in land-based infrastructure and mobile towers for mobile connectivity throughout island nations. Lynk's satellite-direct-to-standard-phone service solves the 0G connectivity problem for residents of the islands of all these nations, as well as the fishing villages across vast regions. Lynk also provides an 'everyone everywhere emergency' (EEE) alert service, which notifies populations ahead of natural disasters, while offering instant backup after disasters hit. "Lynk's global commercial service is poised to launch later this year. We continue to add carriers as launch partners and anticipate more in the coming months," notes Charles Miller, Lynk CEO. "0G, that is lack of any coverage, compromises people's safety. The recent Tonga disaster shows just how important connectivity is for people's health and safety during a disaster. It is not just volcanoes and tsunamis that we need to worry about ... it is hurricanes, earthquakes, fires, tornadoes and blizzards, too. Today, Lynk is solving the 0G problem in seven island nations. Tomorrow, we will provide the ultimate safety net that ensures everyone, everywhere in the world can access mobile connectivity, no matter what happens." Lynk's most recent test satellite (its fifth prototype cell-tower-in-space) has completed all its major technical milestones. It has connected thousands of unique devices across five different countries, (Bahamas, Canada, New Zealand, the United Kingdom and the United States), enabling direct two-way connectivity between devices and Lynk's satellites.

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