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Industry Trends, News Analysis, Market Intelligence and Opportunities

Update on the Middle East Satellite Market

by Elisabeth Tweedie

Looking at recent developments in the satellite market in the Middle East, two words spring to mind: growth and partnerships.

In a white paper "Beyond the Stars," written for the Sultanate of Oman, Novaspace (formerly Euroconsult)describes the Middle East as a "global hotspot for space activities." The space economy in the region has tripled in the last decade to an estimated value of US$ 25 billion in 2023, and is expected to reach US$ 75 billion by 2032. A significant portion of this growth can no doubt be attributed to the region's governments desire to diversify their economies and lessen the reliance on hydrocarbons. This is reflected in the significant investment that has been made in the space sector; US$1.4 billion last year, up from US$696 million in 2010, and projected to double to US$2.8 billion by 2032.

The very fact that this white paper was written for the Sultanate of Oman, is in itself somewhat surprising, as Oman is not one of the first countries that springs to mind when thinking of the satellite industry in the Middle East. The fact that one of the prominent Sovereign Wealth funds investing in space, is also that from Oman is equally surprising.

Oman's first satellite, Aman-1, an earth observation (EO) nano-satellite was launched by SpaceX at the end of last year, and is now operational and transmitting images. However, the choice of SpaceX to launch Aman-1 is not surprising given that the Omani Investment Authority, (OIA, the sovereign wealth fund of Oman) took an equity stake in SpaceX in 2021. The size of the investment has not been disclosed, but at the time the OAI stressed that the investment was intended to provide more than financial returns. A post by the OIA stated: "The investment will advance by benefitting from technologies owned by the company and create potential

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EDITORIAL

The Middle East/North Africa Market

This month we focus on the growing Middle East and North Africa (MENA) satellite market--a market that has tripled in size in the last decade and is forecast to grow to US$ 75 Billion by 2032. Our cover story deals with this very interesting market by our Associate Editor Elisabeth Tweedie.

This month is the 30th anniversary edition of the CABSAT exhibition and SatelliteExpo summit held during CABSAT. I personally have been to fifteen of the last thirty CABSATs and it never ceases to amaze me how the city of Dubai and the region has continuously evolved in that span of time.

Satellite Markets and Research will be exhibiting at CABSAT at booth #S3-D47, Sheik Saeed Hall 3. I will also be moderating a couple of sessions at the SatExpo Summit at CABSAT (**https://cabsat.com/satexpo-summit-**)

To register for free for the CABSAT exhibition and the SatExpo Summit click here: **https://visit.cabsat.com/DWTC/cabsat24**

We look forward to seeing you in Dubai.

Virgil Labrador
Editor-in-Chief

Satellite Executive BRIEFING
Industry Trends, News Analysis, Market Intelligence and Opportunities

EDITORIAL

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Middle East Update...

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opportunities to transfer the company's expertise and experience locally, which leads to opening the prospects for foreign investments."

Oman's space ambitions, however are more extensive than just one nano-satellite. It is building a spaceport, known as Etlaq at the coastal town of Duqm, which is planned to be operational by 2030. It is being designed to accommodate all sizes of launch including large commercial ones. The location is a good one; 19oS, closer to the equator than the Kennedy Space Center in Florida and also adjacent to a large body of water to the east. However, before US companies can take advantage of the site, Oman will have to reach agreement with the US on ITAR regulations. As well as a spaceport, there are plans for manufacturing, launch services and the construction and operation of ground stations in Oman and the Middle East. These are the result of a collaborative venture between ETCO (the entity responsible for Aman-1) and two Polish Companies (SatRev and Tuatara). The joint venture is known as Spazers.

Arabsat

Oman, is by no means the only country in the Middle East pursuing collaboration and partnerships, Arabsat, the region's largest operator with eight satellites, covering 100 countries, has not been sitting on its laurels. Last September, it effectively relaunched itself with a new brand identity, stating its ambition is to "position Arabsat as a guiding light for shaping the future, amplifying communication values and fostering unity among nations." It is aiming to position itself as "the premier platform in the global satellite communication arena." Several new collaborative ventures and partnerships have been announced since then, including those with TVU Networks and Zixi, and Nilesat.

"...the space economy in the Middle East has tripled in the last decade to an estimated value of US$ 25 billion in 2023, and is expected to reach US$ 75 billion by 2032..."

Partnering with TVU Networks, a cloud-based workflow provider and Zixi a company that specializes in live broadcast-quality video delivery over IP, Arabsat launched a new global content delivery platform, to make it easier for TV channels to share their content, in any video format, anywhere in the world.

Arabsat also signed a strategic partnership and joint cooperation agreement with the Egyptian Operator, Nilesat, intended to enhance broadcasting and communication services across the region. This agreement was made public on March 4th this year. March was a busy time for Nilesat, as the day before, it announced that it had signed a Memorandum of Understanding (MOU) with the Qatari operator, Es'hailsat for "cooperation and integration." That collaboration covers video streaming, satellite communications, and digital technologies, amog others, across the Middle East and North Africa.

Arabsat's satellites are all geostationary, but in March it signed an MOU with the Canadian operator Telesat, establishing a long-term strategic partnership to collaborate on efforts to commercialize Lightspeed, Telesat's low earth orbit (LEO) constellation. The constellation will have 198 satellites, the first of which are scheduled to launch in 2026. The MOU also covers cooperation on technical aspects, orbital resources and regulations.

United Arab Emirates

The United Arab Emirates (UAE) government is also making a significant investment in satellite communications. It already has contracts with Yahsat, but these are due to expire in 2026. Last September it pledged US$5.1 billion to buy broadband services from the operator until at least 2043. Yahsat is planning to use the investment to fund two GEO satellites from Airbus, Al Yah 4 and Al Yah 5. These are slated to "surpass current industry capabilities, including capacity, coverage and flexibility." Announcing the investment, Yahsat CEO Ali Al Hashemi said the investment would enable the company to provide "broader, more diverse and cutting-edge solutions portfolio to both the government and our customers." Currently around 75% of Yahsat's revenue comes from government customers, but the company has said that ultimately it hopes to have a 50-50 government-commercial split.

Maybe bolstered by this guaranteed revenue stream, in February of this year, Yahsat announced Project SKY, its direct to device (D2D) strategy. In the announcement the company said that it "is primed to transform the lives of billions of people and accelerate internet-of-things (IoT) growth." Yahsat's subsidiary Thuraya, has been providing a D2D service since 2013 in its coverage area. This is via SatSleeve, a device containing an

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Qatari operator Es'hailsat signed a Memorandum of Understanding (MOU) in February this year with the Egyptian operator, Nilesat for cooperation and integration that covers video streaming, satellite communications, and digital technologies, among others, across the Middle East and North Africa.

L-band antenna, which can be added to a smart phone and provides satellite voice, data and texting when out of cellular coverage. SKYPHONE (the device for Project SKY) is a dual SIM Android smartphone with an integrated antenna for satellite voice and SMS. The cellular SIM can come from any of Thuraya's cellular partners.

Phase One of Project SKY will offer voice and messaging capabilities this year, followed by texting and IoT capabilities in 2025. Service was intended to be supplied from its GEO satellites, Thuraya 2 and 3, then Thuraya 4 which is scheduled for a December launch. However, on April 23rd Thuraya 3, which is already at the end of its lifespan, suffered a major anomaly, cutting off all services to many countries. It is not yet clear how or if, this will impact Phase One. Thuraya is an investor in Astrocast, which operates a LEO smallsat constellation for IoT, so this may be integrated into the service for IoT connectivity and services. Phase two, known as Project BlueStar aims to enable full D2D connectivity "through a scalable and sustainable satellite network."

Space42

Important and interesting, though all these partnerships are, the most ambitious, and probably the most surprising, also comes from Yahsat, which is merging with Bayanat to create a new entity Space42. In the documents released describing the merger, Bayanat is described as a company providing "comprehensive world-class AI-powered geospatial solutions to a growing number of sectors such as government services, environment, energy and resources, smart cities and transportation. Its offering includes topographic, hydrographic and aeronautical products and charts, as well as spatial data surveying, analysis, management modeling, visualization and cartography services. Bayanat's solutions harness vast amounts of premium and unique data from a range of sources including various types of satellites such as synthetic aperture radar (SAR) satellite, optic satellite as well as high altitude pseudo satellites (HAPS) and conventional mapping and surveying powered by AI to drive geospatial intelligence (gIQ)."

Also in those documents, Space42 is described as "an AI-powered space technology champion in the MENA region with additional potential for significant global growth and synergies. With a strengthened financial position, enhanced AI-powered technological capabilities and a diversified product portfolio, the combined entity will be vertically integrated and optimally positioned to capture regional and international opportunities in geospatial and mobility solutions, satellite communications and business intelligence. It is expected to benefit from considerable revenue synergies and economies of scale that will best position the organization for innovation and profitable growth."

The market capitalization of Space42 is expected to be around US$ 4 billion, with revenues of around US$ 700 million. Karim Michel Sabbagh, a former President and CEO SES is the Managing Director Designate of the new company. Immediately before joining Space42 Sabbagh was CEO of eSpace.

At first glance this seems like an extraordinary move, by a communications satellite company, but in fact Yahsat's interest in geospatial started in 2021 when the government services arm of Yahsat and G42 "the leading UAE based AI and cloud computing company" signed an MoU to collaborate on advancing remote sensing and geospatial capabilities. G42 is also

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the majority shareholder in Bayanat (which is doubtless where the name "Space42" came from). According to Forbes, G42 is a technology holding company, chaired by a member of Abu Dhabi's royal family and backed by Mubadala. It has partnerships with many international companies, including OpenAI, Dell, Microsoft, Nvidia, Oracle, Cerebras, AstraZeneca, Illumina and Mercedes.

That MoU was followed up in February of last year, by an announcement by Yahsat that it was partnering with the Mohammed Bin Rashid Space Center (MBRSC) on remote sensing and earth observation. Under the agreement, Yahsat gained the right to commercialize EO data from MBRSC and also created the potential for R&D collaboration.

Then in May last year Yahsat, Bayanat and ICEYE (a Finnish manufacturer of synthetic aperture radar (SAR) satellites) announced plans to develop a comprehensive space program aimed at building national satellite remote sensing and EO capabilities for the UAE to commercially address opportunities in the local and global EO market. The initial constellation was to be five LEO satellites, but this has since been expanded to seven. So maybe merging with Bayanat was not such an extraordinary move after all.

The merger was approved by shareholders of both entities on April 25th. Announcing the agreement, Sabbagh said: "Bayanat and Yahsat have laid strong foundations for SPACE42 to build upon with enormous potential to disrupt the space-tech industry. With the combined expertise of both businesses, SPACE42 brings a unique offering to the market, merging satellite communications, geospatial intelligence and AI to pioneer innovative solutions. The merger marks a significant step for shareholders and underscores our commitment to advance the UAE's position as a global AI-powered Space-Tech leader."

As I said, growth and partnerships. It will be interesting to see how many new strategic alliances and partnerships are forged at this year's Cabsat.

Elisabeth Tweedie has over 20 years experience at the cutting edge of new commmunications and entertainment technologies. She is Associate Editor of the Satellite Executive Briefing and the founder and President of Definitive Direction (www.definitivedirection.com), a consultancy that focuses on researching and evaluating the long-term potential for new ventures, initiating their development, and identifying and developing appropriate alliances. During her 10 years at Hughes Electronics, she worked on every acquisition and new business that the company considered during her time there. She can be reached at etweedie@definitivedirection.com

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Looks like 2024 is going to be an exciting year for the satellite industry! Will the NSGOs take over from the geostationary players – or is that just a perception based on hyperbole and press releases? Is satellite-to-device the next "big deal" – but will we ever get much more than just messaging and low speed data? And those tens of thousands of satellites . . . with all the debris and junk. Looks like the world is waking up to the problem big time! Are software defined satellites living up to their claims and expectations – and to what extent is inflation and supply chain problems affecting the economics? And is linear TV finally on its last legs? How do all these questions link up?

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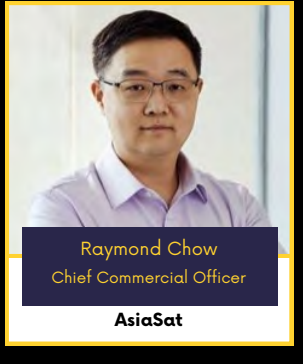

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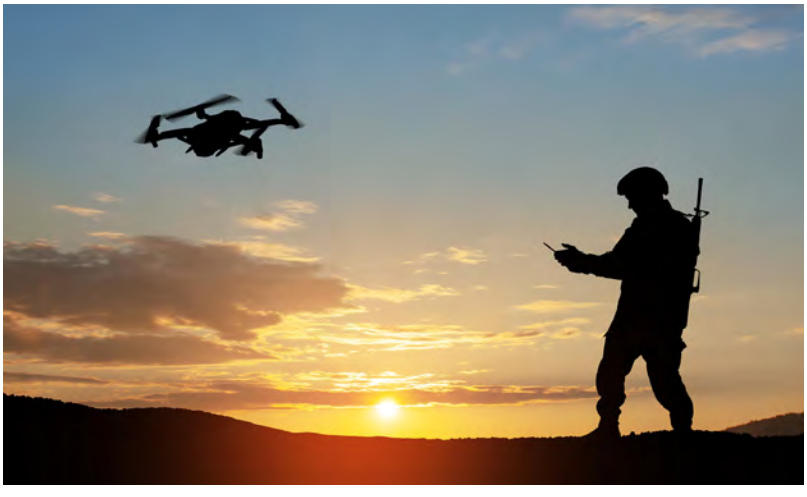
Encoding, Compression, Quantum and Today's Video Quality Imperative

by Paul Scardino

Imagery and video now account for over 80% of the world's online content. Video experts and everyday video consumers alike agree that today's connected content requires more robust networks. Consequently, video compression and encryption are now essential to modern communication infrastructures. Maintaining high video quality is non-negotiable; however, video transmission is restricted due to challenges in bandwidth, security and latency, which can in commercial scenarios affect the quality of the experience and in mission-critical applications like defense, can influence mission success and even the safety of soldiers.



Optimizing Video Streams

Video distribution needs to be global, even at the network's periphery where bandwidth is often constrained. Optimizing video streaming for such conditions is key. Employing methods like adaptive bitrate streaming and choosing efficient codecs are imperative strategies to improve video delivery. Enhanced performance at lower bit rates means you can stream more video content or make video streaming feasible where it was previously impossible, all without exceeding existing network bandwidth limits.

However, video compression and streaming are resource-heavy processes. Besides the need for low bitrate performance in environments that are remote, mobile, or tactical, where resources are limited, the need for additional power can mean using extra batteries or decreased operational time. Therefore, opting for power-efficient codecs and hardware tailored for these specific applications is crucial.

Furthermore, high compression ratios in video streaming can result in artifacting and distortion between frames, which may adversely affect the clarity and functionality of the video. While high compression in video streaming can lead to a loss in quality, codecs like AV1 stand out for their efficiency. They offer reduced distortion and superior motion estimation, which are critical for maintaining video integrity, especially in applications where clarity is paramount. AV1's advanced algorithms and higher bit depth processing ensure that even with significant compression (bitrates less than 200 Kbps), the video remains as clear and usable as possible.

Defending Against Quantum AI

In the fast-evolving world of video streaming, security is critical. Traditional encrypted communication networks and legacy encryption methods like AES256 are no longer sufficient on their own. Advances in cyber capabilities suggest that these traditional forms of cryptography may not be as secure against sophisticated attacks, especially with the rise of quantum computing and AI-enhanced technologies. The emergence of AI technology has brought about a significant challenge to the authenticity of video content, known as deepfakes. These sophisticated AI creations

can produce highly deceptive videos that closely resemble authentic footage.

In response to these threats, the cybersecurity community is actively researching and developing new encryption methods to resist quantum-computing attacks. The answer is post-quantum, also known as quantum-resistant, encryption methodologies. NIST states these post-quantum (PQ) cryptographic algorithms are designed to secure data against the capabilities of future quantum computers.

It's a common assumption that enhanced compression and encoding capabilities, coupled with significantly improved security, would inevitably lead to increased latency -- the time delay between the capture of a video frame and its display after being processed. However, this isn't necessarily true. With the application of the latest technology applied to AV1, we can drive HD video encoding latency below 20ms while protecting it with PQ Encryption and compressing it to extremely low bit rates (less than 50 kbps).

Introducing VASTTM

Video Assured Secure Transmission or VASTTM is Reticulate Micro's software-based, real-time streaming video and image encoding technology based on the latest open standard AV1 codec. VAST supports real-time encoding of video at bitrates lower than legacy codecs such as H.264 and HEVC/H.265, while offering upwards of 5000:1 compression ratio for still images for huge storage savings.

Tuned to address ultra-low bandwidth requirements by more than half the compression capability of other encoders. VAST shines at sending higher quality video and imaging over any network, including low-bandwidth networks that could previously only support voice.

Based on AV1 open-source specification, VAST exploits the use of extremely efficient software encoding for real-time video streaming. This unique encoding, decoding, compression and decompression methodology is integrated with post-quantum encryption.

Using an open-source standard for video allows for anyone to view the video with any supported playback tool, but using the VAST encoder and player together provides the ability to leverage post-quantum encryption

"...Video distribution needs to be global, even at the network's periphery where bandwidth is often constrained. Optimizing video streaming for such conditions is key. Employing methods like adaptive bitrate streaming and choosing efficient codecs are imperative strategies to improve video delivery..."

of the video. Along with AI-based networking to allow the player to tell the encoder that there is congestion on the network, VAST uses AI to adjust the source compression and maintain a solid stream.

Conclusion

In the face of emerging threats of electronic warfare, real-time hacking and AI, the broadcast and defense community must embrace the latest advances in video streaming. The future of secure video and imagery depends upon prioritizing video capabilities to follow best practices while embracing a PQ security mindset. Reticulate Micro's VAST™ video-encoding platform specifically addresses these critical situational and cybersecurity issues and provides a significant leap in performance and the first commercially available PQ encryption capability specifically designed for streaming video.

Paul Scardino is EVP of Sales and Chief Strategy Officer for **Reticulate Micro**, a defense and commercial technology company dedicated to delivering trusted and resilient communications over any transport and in any environment. Reticulate is building the world's first quantum-protected open-source platform for robust video streaming, simplified terminal management and multi-orbit satellite connectivity. Prior to Reticulate, Paul held senior leadership roles at Comtech, L3Harris Technologies, Speedcast and **Globecomm Systems, Inc.** He can be reached at: paul@reticulate.io

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OPINION

Why Did the Elf Cross the Road?

by Lou Zacharilla

***"To believe that what has not occurred in history will not occur at all, is to argue disbelief in the dignity of man."* – Mahatma Gandhi**

If you happen to be driving in Iceland admiring its celestially-favored coastal landscape with deeply indented by bays and fiords, you will notice, as you head toward the inland plateau, that along the straight road of a major highway you, your automobile and the highway will slowly but surely curve widely for no apparent reason. No danger in the landscape justifies this arching curveball thrown into the road.

But there's a reason. An unexpected one.

In this country with sufficiently high GDP thanks to the industrious organization of its tourism, aluminum smelting and fishing industries, where irreligion grows steadily - to the point where more than 30% of the people identify as "not religious" - six out of every 10 of these disbelievers do believe faithfully that the government should spend significant amounts of highway construction and maintenance monies curving these roads in order to avoid hitting wandering Elves.

I'll repeat that.

Iceland spends good-old taxpayer money to ensure that its Elf population meets no harm while crossing the road. It begs the joke, "Why did the Elf cross the road?"

It also begs the question of why people so hearty and smart in so many ways spend their government's money like this. I have asked. There is no good answer.

So, to keep from dissing this fine nation, let's conclude that each culture has its churlishly elfish whims and peculiarities.

In my neck of the woods here in the USA and in places like Japan, India and China – even Nepal - we spend money and invest to go into Space. While there are millions who question this as foolhardy as protecting the Elf population, it is our core belief that building, launching and managing satellites to assist with the logistics for and measurement of maritime cargo, road construction and as we learned at last month's New York Space Business, QCS (quantum clock synchronization) to replace GPS is of great value to our economy and spirit of commercial endeavor.

His Royal Highness Prince Guillame of the Duchy of Luxembourg speaking at the the Luxembourg American Chamber of Commerce Gala Dinner.

We are there. Despite a drop in overall venture capital investment the past 36 months, commercial Space is experiencing the emergence of a genuine private infrastructure. A "platform" for our deepest urges and shallowest cravings to create more wealth here on Earth. As Seinfeld says, "Nothing wrong with it."

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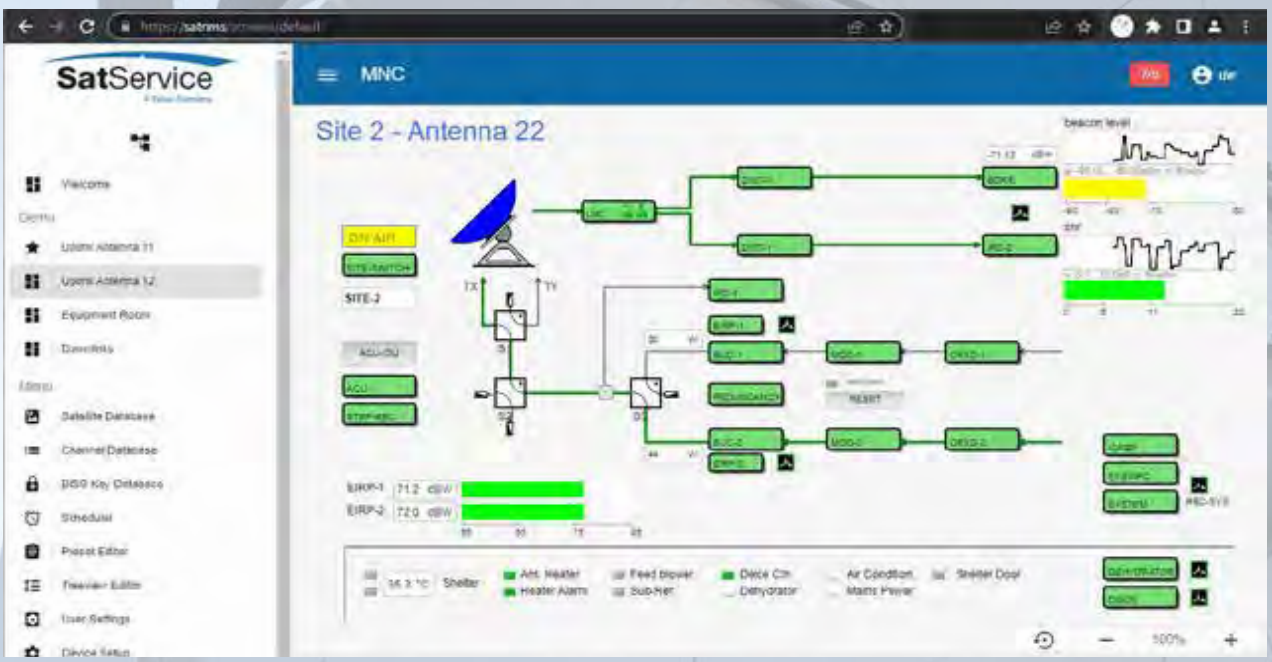

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For sure. Many, many things are right with it.

Nations large and small are committing themselves to space-related economic development clusters as part of their national growth and development plans.

The past few years has seen the Grand Duchy of Luxembourg, home to satellite operator giant SES, take the lead in strategic moves and bending the road in their favor.

Along with its Trade & Investment Office of New York and the Luxembourg Space Agency, the Luxembourg American Chamber of Commerce in New York brought awareness to the beauty and importance of Space infrastructure by doing something it had never done before. In April it gave its biennial business of the year award to a Space company!

The recipient, Redwire, picked up the award at a splendid black-tie Gala Dinner at New York's spectacular Metropolitan Club. Earlier in the day I represented SSPI and had the honor of moderating two panels on which investors, start-ups and industry experts discussed where we are in commercial Space and Cislunar Economy activities.

For those who do not know, Redwire (NYSE: RDW) is a pure play Space infrastructure company for the "next generation of Space economy." It does business in Luxembourg because as its Crown Prince Guillaume told us (I'm paraphrasing), "gets it." You don't have to be big to do BIG things they say there. Space is among the next growth industries in the digital era and convincing investors such as Promus Ventures to co-invest set the stage for the future.

Redwire's Luxembourg facility designs and develops robotic arms to support activities in Earth orbit and on the Moon. These include satellite servicing and refueling, payload management, debris capture, in-space manufacturing, and resource extraction.

I'm just getting started on the long list.

It supports a variety of ambitious European Space Agency programs, including the Cheops mission, Proba-3, Euclid, the International Berthing and Docking Mechanism for the lunar Gateway, and the Hera mission.

The company has crossed the road without many scratches. It showed marked financial improvement on a year-over-year basis, with a 51.9% increase in revenues in 2023, although as Peter de Selding reported, nearly two-thirds was from an acquisition.

But you don't scale if you don't buy. This is a veteran team, as they say in baseball, with decades of flight heritage and experience. Redwire's 700 employees work from 14 facilities located throughout the United States and Europe.

It offers the "Better Satellite World" (www.bettersatelliteworld.com) notion in much of its work. For example, it is gearing up for a monumental milestone in orbit that will have important implications for human health here on Earth when completes operations for the BFF-Meniscus-2 investigation, which will use its BioFabrication Facility (BFF) on the International Space Station (ISS) to bioprint a human knee meniscus. This investigation is exploring how space bioprinting could help treat meniscal injuries, one of the most common orthopedic injuries affecting, among others, military service members. The print will be the first time a full human knee meniscus will be bioprinted in space.

None of this will be easy nor will money flow endlessly, of course. NASA budget reductions could create headwinds for large in-orbit civil funding if other investors do not come in. But as Redwire's CFO, Jonanthan Baliff noted, "Tailwinds in smaller experiments with larger terrestrial markets such as Varda's US$90M funding round recently for pharma-related microgravity work proves, the potential for most things to be "made in Space" is dangling in front of societies.

Does that sound like an Elf crossing the road to you? Well, it is as incredible. I've never heard an Elf cross a road although to deny the possibility in a time with so many wonders and dimensions unfolding may show a lack of imagination!

Lou Zacharilla is the Director of Innovation and Development of the Space and Satellite Professionals International (SSPI) and the host of the "Better Satellite World" podcast. He can be reached at: LZacharilla@sspi.org

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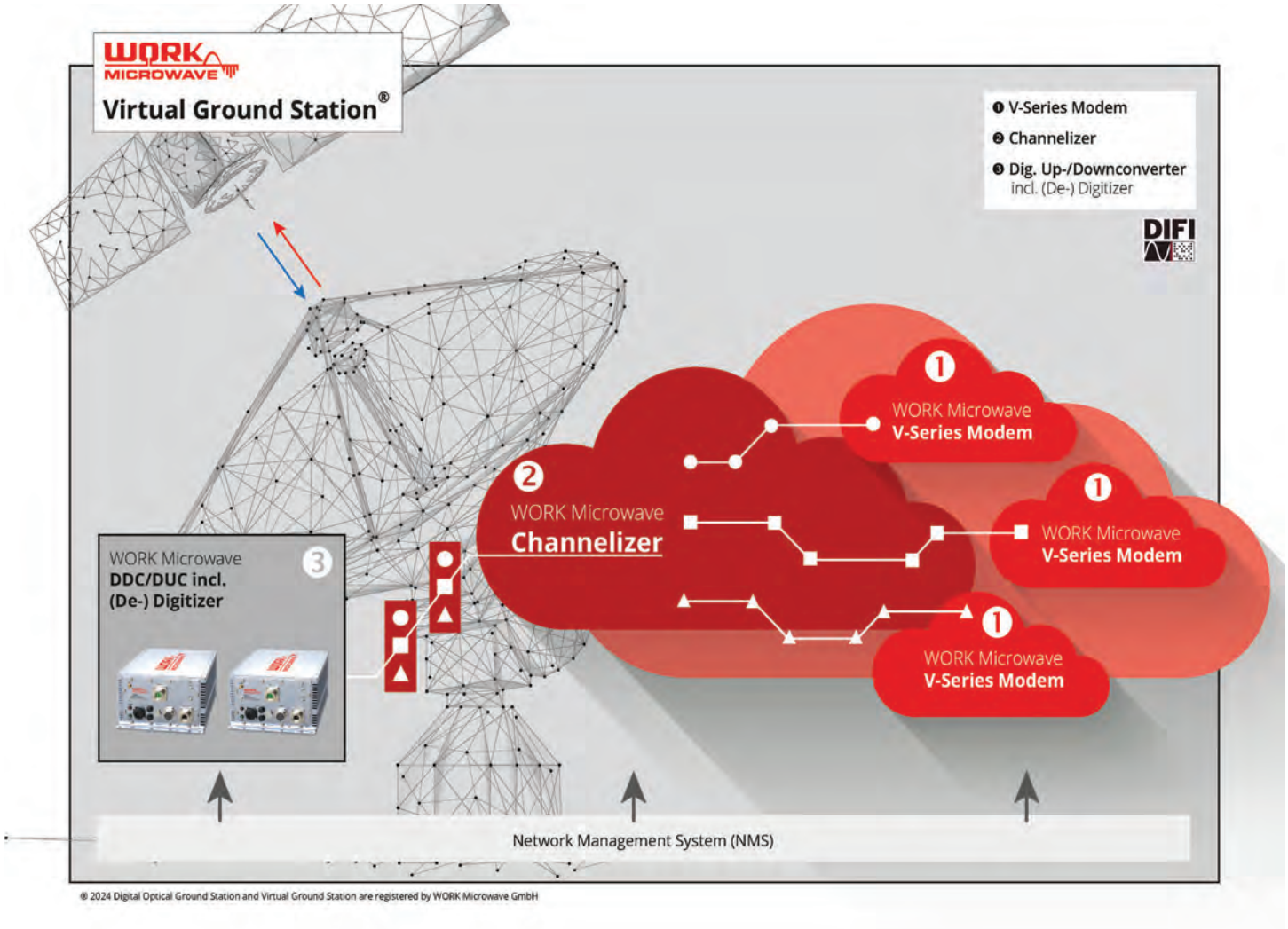
WORK Microwave, one of the leading manufacturers of advanced satellite communications equipment, launched recently its cutting-edge Virtual Ground Station® (VGS). The state-of-the-art VGS architecture is based on a modular design consisting of three functional blocks offering an end-to-end virtualization of ground station infrastructure: conversion of received RF signals in all possible frequency bands into a digitized signal according to DIFI or other digital signal standards, separation of individual digitized channels, and cloud-based wideband signal processing by a virtualized software modem.

WORK Microwave's End-to-End Virtual Ground Station architecture represents a significant leap forward in the satellite communication industry, empowering operators to maximize efficiency, reduce costs, and adapt to the dynamic demands of modern satellite missions.

"VGS provides unparalleled scalability, allowing operators to easily expand and adapt their ground station capabilities to meet evolving mission requirements, enabling at the same time efficient and centralized control of satellite communication networks and the utilization of a world-wide cloud infrastructure." said Jörg Rockstroh, Vice-President-Technology and Business Development at WORK Microwave.

Digital Converter with Integrated Digitizer Functionality

On the receive side of the system, the antenna Rx signals from S to V-Band are down-converted and



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digitized into a digital IF signal (DIFI) or other digital standards by WORK Microwave's Digital Downconverter (DDC). On the uplink side, the inverse process is carried out by the Digital Upconverter (DUC). DDC and DUC can be made available as stand-alone units or in a single IP 65 outdoor unit for both up- and downlink depending on mission needs with up to 3.5 GHz bandwidth.

The DDC receives RF-signals from the antenna's LNA and converts them to a digital IF signal. It combines WORK Microwave's proven frequency downconverter technology with a brand new wideband digitizer platform with DIFI-based or other digital standard output. The digital baseband signals are transported as IP packets to the Channelizer unit.

The Digital Upconverter (DUC) receives digital baseband signals as IP packets in DIFI or other digital standard from the Channelizer unit and converts them to RF signals. It combines WORK Microwave's proven frequency upconverter technology with a brand new wideband De-Digitizer platform. At the output, the RF signals are sent to the HPA for amplification.

The main features and advantages of the units are:

- World-leading RFconverter technology (direct S/C/X/Ku/DBS/Ka/Q/V-band ports are possible). This feature makes the units very compact and eliminates additional need for separate frequency converters, redundancy switches, additional RF connection points and signal attenuations. RF-front-ends make use of WORK Microwave Frequency Converter platforms and can be easily adapted to specific customer requirements.
- DUC and DDC functionality can be integrated into a single housing (option)
- (De-)Digitizer functionality can be integrated with Converter and Digitizer function (option)
- Bandwidth up to 5 GHz
- Outdoor design IP65 supporting mounting in the antenna hub or to the outdoor antenna structure. This feature eliminates a need for a large RF shelter near the antenna and saves significant space in terms of system integration.
- High operational temperature range: -30° to +60° C

Continued on page 26

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Spotlight on key products and services to be showcased at CABSAT 2024

Dubai, UAE, May 21-23, 2024

AvL Technologies

visit AvL at the MENA NETS booth #202, Sheikh Saeed Hall 2

AvL Technologies designs and produces mobile satellite antennas, terminals and positioner systems. AvL's robust terminals combine rugged packaging, stout wind performance, ease of operation and 24/7/365 customer support. AvL leads the industry in the delivery of systems that operate with the next generation of military satellites, including Xtar and WGS.

At CABSAT, AvL will be highlighting , among others, its 1.35m X-Y Band-Configurable MEO-LEO Tracking Antenna is transportable and features tool-less assembly and rapid set-up. The antenna operates with an X-Y positioner to eliminate overhead pass keyhole and uniquely shaped optics enable high G/T. The carbon fiber reflector is segmented and the integral base is a non-penetrating tripod. The antenna operates in X-, Ku- or Ka-band with AvL's AAQ controller embedded in the base positioner.

For more information go to: www.avltech.com

Es'hailSat Qatar Satellite Company

visit Es'hailSat at booth #S3-D10, Sheikh Saeed Hall 3

Es'hailSat, the Qatar Satellite Company, is a communications satellite operator headquartered in Doha, Qatar. Established in 2010, Es'hailSat delivers services to broadcasters, enterprises and governments in the MENA (Middle East and North Africa) region and beyond. With the goal to become a world class satellite operator and the foremost satellite services provider in the MENA region, Having both Ku-band and Ka-band payload on satellites co-located at 25.5°E / 26°E broadcast hotspot enables Es'hailSat to provide the region with the most advanced and sophisticated services including broadcast, telecommunications and broadband.

For more information go to: www.eshailsat.qa

Integrasys

visit Integrasys at booth #S3-B35, Sheikh Saeed Hall 3

Integrasys is a privately owned company specializing in engineering and manufacturing of Satellite Spectrum Monitoring Systems, VSAT Installation & Maintenance, and Link Budgets in the satcoms and broadcasting markets. Integrasys has been leading for 30 years the innovation in the satellite industry with new solutions which saves time, effort, and OPEX for satellite industry companies. At Integrasys our mission is to provide the industry with the best quality and fastest technology available in carrier monitoring systems, with the customer service and care that our customers deserve.

For more information go to: www.integrasys-space.com

Intersputnik International Organization of Space Communications

visit Intersputnik at booth #S3-A40, Shk Saeed Hall 3

Intersputnik is an international organization, uniting members and signatories from all over the world. One of its main missions is to promote use of satellite communications to meet the sustainable development goals set by United Nations (SDGs). Broadband connectivity is a versatile tool to bridge the digital divide and increase the level of digital inclusion for all population clusters all around the world. Services provided by Intersputnik contributes to reaching many SDGs. Telemedicine via satellite to remote locations contributes to Good Health. Using satellites for precise and smart farming improve crops and helps to fight Hunger. Connecting schools in least developed countries helps to improve Education. Connecting most remote villages and delivering them media contributes to Sustainable communities. Collecting meteorological and other related data about the Earth helps to track Climate changes and react immediately. In general, satcom and broadcasting solutions improve Life on Land and during journeys by air and water. Since satellite coverages are global – this all helps to develop Partnerships for the Goals with vendors, integrators, solution providers and satellite operators

For more information go to: **www.intersputnik.int**

Mission Microwave

visit Mission Microwave at the Decibel Systems booth #S2-B20, Sheikh Saeed Hall 3

Mission Microwave Technologies supports the satellite terminal industry with high performance X-, Ku-, and Ka-band products from highly integrated transceivers in the 10-80 watt range to large-scale amplifiers up to 400 watts for gateway installations. Customers rely on Mission Microwave to provide the highest level of capability, reliability, support, and on-time delivery.

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For more information, go to: **www.missionmicrowave.com**

RF-Design

visit RF Design at booth #PD34, Sheikh Saeed Hall 2

For 25 years **RF-Design** has been developing, manufacturing and providing technology leading satellite ground segment products and solutions offering a wide range of premium class RF distribution, RF-over-Fiber, RF amplifying and RF monitoring systems. High quality products, long expertise, flexibility and the ability to customize products for individual customer requirements along with a unique customer oriented service approach have made us a reputable partner within this sophisticated industry around the globe.

Meet with us in Dubai at CABSAT 2024 and learn more about new switch matrix system "FlexLink R25", the quad RF-over-Fiber system "QLink", our innovative N+1 redundant line amplifier "HQR445C" and the dual RF power meters "PwrM40G". We look forward to talking to you personally about your individual requirements.

For more information, go to: **www.rf-design-online.de**

Satservice GmbH

visit Sateservice at booth #PD28, Sheikh Saeed Hall 2

SatService GmbH, a designer, manufacturer and reseller in the field of satellite communications, specializing in ground station and teleport equipment. We are pleased to present the latest technologies and our very own sat-nms products, at this year's Cabsat show. Designed & manufactured in Germany, SatService provides competitive and customer dedicated products as well as system solutions with high quality and quick reaction time. Our strength is the combination of system engineering and integration know-how with highly sophisticated products. Our sat-nms product line consist of Monitoring & Control, Network Management Systems, Motorized Antennas and Antenna Tracking Systems, Beacon Receivers, Distribution Amplifiers, Matrixes, Converters and Fiberoptical Links.

For more information go to: www.satservice.gmbh.de

Spacebridge

visit Sateservice at booth #S2-E20, Sheikh Saeed Hall 2

SpaceBridge Inc. develops and provides satellite network equipment and services, including VSAT HUBs and Terminals for Point-to-Point, Point-to-Multi-Point, and Mesh typologies, as well as SCPC and broadcast modems for GEO and NGSO satellite constellations. Spacebridge also provides Cloud-Based autonomous managed services for its customers.

For more information, go to: www.spacebridge.com

Terrasat Communications

visit Terrasat at booth #205

Terrasat Communications Inc. delivers dependable SATCOM solutions for Transmit and Receive ends. Our IBUCs excel in intelligence, reliability, and endurance, even in the harshest environments – available across C-Band, X-Band, Ku-Band, and Ka-Band, and ranging from 4W to 800W. Harness the power of Dual-Band and Tri-Band IBUCs for seamless frequency bridging and operational flexibility. Our units excel in multicarrier applications, allowing for simultaneous transmission across multiple carriers, maximizing efficiency. Rigorously tested for endurance in extreme temperatures, each IBUC has a 3-year warranty, guaranteeing long-term support and peace of mind. Embrace the future of SATCOM with Terrasat's cutting-edge technology, unlocking the potential for multi-orbit connectivity and revolutionizing your communication network.

For more information go to: www.terrasatinc.com

WORK Microwave

visit WORK Microwave at booth # S1-M30c, Shk Saeed Hall 1

Headquartered in Holzkirchen, Germany (near Munich), and comprised of four operating product lines —Satellite Communication, Navigation Simulators, Defence Electronics, and Sensors and Measurement — **WORK Microwave** leverages over 35 years of experience to anticipate market needs and apply an innovative and creative approach to the development of its technologies while maintaining the highest standards for quality, reliability, and performance. WORK Microwave's Satellite Communication product line develops and manufactures high-performance, advanced satellite communications RF- and optical ground segment hardware and software for earth observation, NGEO constellations, direct-to-home broadcast, IP networks, teleport management, government communications, and many more applications. For more information, go to: www.work-microwave.com

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Virtual Ground Stations...
...from page 21

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- Fiber optical interface to either Channelizer or Virtual Modem-High reliability ensuring outstanding QoS (Quality of Service)

Channelizer

The Channelizer plays a key role in the overall management of the data streams and the economic operation of the global network system. It helps to minimize the IP bandwidth needs of the virtualized system by extracting the actually required bandwidth from the digitized RF signal prior to sending it to the cloud-based modem on the receive side, and by effectively combining channels on the uplink path. While the most economic way of realizing this functionality is a software solution operating on a satellite ground station based indoor hub infrastructure, it can also incorporated inside the Digital Converter if required.

The Channelizer (and De-Channelizer) is a software-based key management unit for an efficient operation of the Virtual Ground Station. It allows the operator to optimize network resources by extracting only those data streams, which are to be sent to the modem or which need to be efficiently combined to be converted to analog RF and sent to the satellite. It thus ensures efficient usage of IP links for cloud connectivity and optimized RF bandwidth usage for satellite transmission.

The main features and advantages of Channelizer units are:

De-Channelizer (Uplink):

•Offers a highly scalable channel capacity

•Accepts digital IF signals (DIFI 1.2 or others) at different sampling rates and band-widths from 1 MHz to 1 GHz

•Digital IF signals are up-sampled to unified sampling rate and digitally filtered

•IF signals are frequency shifted (according to required channel spacing) and com-bined to a unified digital IF signal

•The unified digital IF signal (DIFI 1.2 or other) is sent to digital Upconverter (DUC)

•Web GUI, SNMPv3, RESTful API for remote control and automation purposes

Channelizer (Downlink):

•Offers a highly scalable channel capacity

•Accepts digital IF signal (full bandwidth) from digital Downconverter (DDC) or digitizer

•Filters and splits signal for all individual channels

•Individual decimation to required sampling rate

•Individual digital IF (DIFI 1.2) signals are forwarded to individual sink (e.g. digital mo-dem)

•Web GUI, SNMPv3, RESTful API for remote control and automation purposes

The Channelizer unit is most efficiently operated locally in a data center at the satellite ground station to optimize data connectivity demands to the Digitizer / De-Digitizer units. If preferred, it can also be integrated into WORK Microwave's Digital Converters (DUC/DDC).

Virtualized Software Modem

The software based V-Series Modem can be operated on a cloud-based infrastructure either locally or entirely dislocated from the satellite ground station. It exchanges the user-relevant data channels and supports both DVB-S2X as well as CCSDS waveforms.

The modulated and waveform-related data is exchanged with a Digital Up-/Down-Converter through digital IF (DIFI) or other digital standards via IP networks.

WORK Microwave's V-series software based modems are fully compliant with DIFI or other digital standards to receive / transmit digitized RF signals from / to the corresponding DDC / DUC Digital Converters. Modem (VX), Transmitter (VT) and Receiver (VR) models are offered following operator needs.

VGS Operations

All WORK Microwave VGS® units can be commanded through a standard network management system via SNMP and RESTful API interface. This enables centralized operations of a world-wide system and guarantees maximum network operator flexibility to integrate WORK Microwave's VGS into their existing NMS systems.

More information on WORK Microwave's VGS can be found at: **https://work-microwave.com/virtual-ground-station/**

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CABSAT 2024 to Highlight New Advancements in Media and Satellite Technology

CABSAT 2024, the Middle East's flagship event for content, broadcast, satellite, media, and entertainment, is set to provide participants with the opportunity to learn about the latest developments in global media, entertainment, and technology industries, especially over the course of this year's Content Congress and SATExpo sessions. The latest edition of CABSAT will highlight all the newest advancements in media and satellite technology, starting from May 21 to 23, 2024, at the Dubai World Trade Centre.

Celebrating its 30th anniversary, CABSAT is the only specialised event that draws more than 14,000 business professionals from the MEASA region's media, content, and digital industries. Over the years, the event has welcomed the highest number of regional attendees, including engineers, system integrators, and broadcasters from the content creation, broadcast, and satellite industries, as well as content buyers, sellers, producers, and distributors. In line with its vision to provide a platform for business, networking, and knowledge sharing for the MEASA region's media markets, CABSAT continues to work with innovative content creators, producers, broadcast technology providers, and content delivery companies to identify traits of success that will fuel the growth of the industry.

With the content creation and distribution landscape evolving regularly, the Content Congress at CABSAT 2024 will provide a space for digital innovators, industry leaders, and content creators to discuss new trends, opportunities, and challenges. The Content Congress will explore key industry trends, including the emergence of OTT content consumption, in light of the projection that 44.9 per cent of global internet users will engage with OTT content in 2024. In addition, they will look at the increasing demand for immersive media experiences, content monetisation strategies, and the future of broadcasting through interactive panel discussions, keynote addresses, and interactive workshops.

The platform will also offer a great opportunity to network with prominent members of the international media community, as well as hear from industry experts about their knowledge and expertise, laying the groundwork for future partnerships, collaborations, and business opportunities. The two-day programme will address significant topics through several sessions, such as 'What AI could mean for the Middle East Media Industry,' 'Who is More Original: Human vs. AI,' and 'The Arab Box Office' among others.

Likewise, hands-on discussions about social and environmental responsibility in the media industry will enable visitors to broaden their perspectives and gain insights into ethical business practices. These additional benefits ensure a more personalised and immersive experience, allowing attendees to engage in meaningful discussions, build new relationships, and increase the visibility of the industry.

Manoj Abraham Mathew, Director – Studios & Events at Dubai Media, stated, "I am delighted to take part in CABSAT 2024, where innovation and collaboration come together. This event provides an influential forum for innovators, content creators, and distributors to examine the newest developments in technology, and trends that will impact the media and entertainment industry going forward. I look forward to connecting with industry leaders and sharing my vision for the content landscape at this year's CABSAT, which we believe will be truly transformative."

Meanwhile, SATExpo summit will serve as a hub for satellite technology enthusiasts, telecommunications experts, and satellite service providers to showcase cutting-edge solutions and discuss the most recent advances in satellite communications. SATExpo is designed to showcase ground-breaking innovations aimed at improving connectivity, extending coverage, and closing the digital divide, ranging from high-throughput satellites to next-generation


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For the past decade, SATExpo has been a driving force in the satellite and space communities, facilitating strategic partnerships and meaningful conversations. The conference will offer attendees in-depth knowledge of topics such as commercial/enterprise connectivity services, government and military services, ground systems and hardware, space data, and more. This year, leading industry experts and executives will be present at SATExpo to facilitate discussions on the global launch and manufacturing markets, future trends and trajectories, and business strategies of the leading companies.

The executive discussion will shed light on key areas like end-user markets, emerging technology, financial insights, technical content, and regional focus. The conference is of great significance to stakeholders, especially as the Middle East Satellite Communications Market is expected to grow from its estimated US$ 3.35 billion in 2024 to US$ 4.79 billion by 2029, with a compound annual growth rate (CAGR) of 7.40 per cent from 2024 to 2029 .

In addition, various trends and developments will be covered through several sessions, such as 'Satellite and HAPS: Transformational Technology Disruption, Service Resilience,' 'Into the Blue: Flying and Sailing with Satcoms,' and 'Turning Constellations into Networks – A New Connectivity Architecture for the Middle East Region' among others.

"In addition to serving as a key forum for stakeholders and industry leaders to convene, CABSAT has been instrumental in providing us with the opportunity to learn about the latest developments and trends in the media and satellite technology domains. We firmly believe that this year's conference will open doors to innovations and foster strategic partnerships that will completely transform the sector. On top of that, platforms such as CABSAT will certainly accelerate the industry's transition to a new era of transformation and expedite the adoption of current market trends." Sanjay Raina, Global Media and Entertainment Executive, commented.

The SATExpo summit this year will also cover how we can and should responsibly use space exploration to support future-proof life on Earth. This is in light of the satellite industry's significant and long-term impact on our future, offering services that can help us monitor the planet effectively and purposefully.

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SES Acquires Intelsat

Betzdorf, Luxembourg, May 1, 2024 -- Satellite operators SES and Intelsat announced an agreement for SES to acquire Intelsat through the purchase of 100% of the equity of Intelsat Holdings S.a.r.l. for a cash consideration of US$ 3.1 billion (€2.8 billion) and certain contingent value rights. The combination will create a stronger multi-orbit operator with greater coverage, improved resiliency, expanded suite of solutions, enhanced resources to profitably invest in innovation, and benefit from the collective talent, expertise, and track record of both companies,, according to SES in a statement.

The transaction, which is subject to relevant regulatory clearances, filings and customary provisions concerning cooperation and measures in seeking such regulatory clearances, which are expected to be received during the second half of 2025, is fully supportive of SES's financial policy and is underpinned by expected total synergies equivalent to 85% of the total equity value of the transaction. The transaction has been unanimously approved by the Board of Directors of both companies and Intelsat shareholders holding approximately 73% of the common shares have entered into customary support agreements requiring them to vote in favour of the transaction.

Transaction highlights:

- Delivers €2.4 billion (NPV) of synergies (85% of equity consideration) with 70% executed within 3 years after closing.
- Expands multi-orbit satellite-based capabilities, spectrum portfolio, and global ground network to serve customers.
- Increases revenue in high demand and growing Networks segments representing ~60% of expanded revenue base.
- Combines complementary investment in space, ground, and network innovation to unlock future value and opportunity.
- Brings together a wealth of collective talent, expertise, engineering knowledge, and go-to-market capabilities.
- Company( ) will benefit from gross backlog of €9 billion, revenue of €3.8 billion, and Adjusted EBITDA of €1.8 billion.
- Medium-term Adjusted EBITDA growth driving future free cash flow (FCF) generation outlook.
- Commitment to investment grade metrics with net leverage below 3 times within 12-18 months after closing.
- Commitment to annual dividend of €0.50 per A-share with expanded FCF base supporting potential for future increases.

On closing of the transaction (subject to receipt of relevant regulatory clearances and other relevant requirements expected during the second half of 2025), SES will pay $3.1 billion (€2.8 billion) to acquire 100% of the equity of Intelsat Holdings S.a.r.l. in a transaction which implies an Enterprise Value of $5.0 billion (€4.6 billion). The transaction will be financed from existing cash and equivalents (which stood at €2.4 billion on 31 March 2024) and the issuance of new debt, including hybrid bonds. Additionally, SES will issue contingent value rights in respect of a portion of any potential future monetisation of the combined collective usage rights for up to 100 MHz of C-band spectrum.

Prior to closing, both company's existing management teams will maintain their focus on executing against their respective near-term business and financial objectives, as well as closing of the transaction.

The combined SES will continue to be headquartered and domiciled in Luxembourg, while maintaining significant presence in the U.S., notably in the greater Washington, D.C. area.

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Kevin Steen Appointed as President and CEO of Combined Eutelsat America and OneWeb Technologies

Paris, France, May 1, 2024– Eutelsat Group announced that **Kevin Steen** has been appointed by the **Eutelsat America Corp.** (EAC) Board of Directors to the position of President and CEO of EAC. He will also continue his existing role as President and CEO of **OneWeb Technologies** (OWT). EAC and OWT completed their combination earlier this year and will go to market as a single EAC entity. EAC is a subsidiary of Eutelsat Group, delivering communication services and solutions to US Government and

Kevin Steen

Military customers around the globe in support of national security missions.

Prior to his appointment as President and CEO of EAC, Kevin served as the CEO of OWT since 2022 and the CEO of iDirect from 2017 until 2022. Kevin is recognized as a leader in the satellite industry with a track record of success utilizing organic and inorganic growth strategies. Steen joined iDirect in 2010 and served in multiple roles including Chief Operating Officer and Vice President of Business Development. Kevin brings over 30 years of technology and business experience to his new role. He holds a master's degree in business administration from Northeastern University and a Bachelor of Science from the University of Denver.

Commenting on the appointment, Pamela A. Drew, Board Chair said at EAC: "We are pleased to welcome Kevin to Eutelsat America Corp. and are confident his extensive experience will be an asset to us as we merge the two companies. The combination of OWT and EAC brings an unparalleled, multi-orbit satellite communications capability to address the unique mission needs of the US Government."

ABS Names Mark Rigolle as its New CEO

Dubai, UAE, April 16, 2024 - -Satellite operator **Agility Beyond Space** (ABS) announce the appointment of **Mark Rigolle** as its new Chief Executive Officer (CEO), effective April 29, 2024.

Rigole brings a wealth of experience in the satellite communications sector, having held positions with GEO, MEO and LEO satellite operators in various capacities including executive, non-executive, advisor, and co-founder. He has been associated with satellite and space development projects in Asia, the Middle East and Europe. He will be based in ABS' office in Dubai, UAE.

"I am very excited to join ABS at this pivotal time for the company and indeed the whole FSS industry," said Mark Rigolle. "ABS is uniquely

Mark Rigolle

positioned to demonstrate how the sector can return to growth after many years of contraction. We have the assets, the people, the capabilities, and supportive shareholders to make that happen. I look forward to working with our current and future customers and partners as we support them in expanding their businesses," he added.

Rigolle has previously served as CFO of SES and CEO of O3b Networks and was a co-founder of Kacific before becoming the CEO of LeoSat and later KLEO Connect. Most recently he was the COO of Rivada Space Networks. Mark holds a master's degree in economics from the University of Leuven, Belgium and is fluent in English, French and Dutch.

ABS is a global satellite operator and offers a complete range of tailored solutions including video, data and telecommunication services to broadcasters, service providers, enterprises, and government organizations. ABS operates a fleet of satellites; ABS-2, ABS-2A, ABS-3A, ABS-4/Mobisat-1 and ABS-6. The satellite fleet covers the Americas, Africa, Asia Pacific, Europe, the Middle East, and CIS. ABS has offices in the Middle East, United States and Asia.

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- CEPT-Carrier-Edge-Power-Track for DVB Carrier
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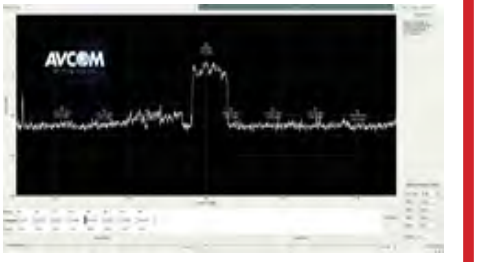

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SatService Appoints Oliver Vogel as Director of Sales and Business Dev

Steisslingen, Germany, April 11, 2024-SatService announced that **Oliver Vogel**, a proven expert in sales and business development of hardware and software products for satellite ground segment applications, has joined its 'sat-nms' sales team as Director of Sales and Business Development effective April 1, 2024.

Vogel, who has worked in the satellite communications industry for the past 20 years, will lead the 'sat-nms' product family sales team internationally with a strong focus to strengthen existing and to establish new sales channels and

Oliver Vogel

new sales and integration partners.

Wilfried Megger, Managing Director of SatService, commented: "We are delighted that Oliver joins our team in order to continue pursuing our ambitious growth targets. As we also want to drive the success story of the "sat-nms" product family internationally, Oliver is the ideal person for this position, as he is well known and recognized in the market and technically very familiar with the product range SatService offers, so that nothing should stand in the way of a rapid implementation of the sales strategy."

Vogel adds: I am glad to be part of the SatService team and very excited to start my role here. I am confident that as a SatService team, together with our current and new partners, as well as our colleagues at Calian Advanced Technologies, we will provide superior products and solutions for satellite ground infrastructure around the globe, ensuring long-term success for us, our partners and our valued clients.

Yahsat Appoints Amit Somani as Chief Growth and **Strategy Officer**

Abu Dhabi, United Arab Emirates, April 1, 2024 - Al Yah Satellite Communications Company, the UAE's flagship satellite solutions provider, has announced the appointment of **Amit Somani** as Chief Growth and Strategy Officer.

Somani, a veteran of the satellite communications industry, rejoins Yahsat with over 27 years of experience in satellite communications and management consulting. He already has extensive knowledge of Yahsat across various roles during his previous tenure with the company from 2010 to 2022. These included Vice President of Strategy and Business Development and most recently Chief

Amit Somani

Strategy Officer from 2014 to 2022.

In his new leadership role with Yahsat, Somani will oversee the development and implementation of the company's growth strategy in addition to spearheading its global strategic partnerships and alliances. This expanded position reaffirms Yahsat's accelerated efforts to successfully implement its wider growth strategy. Mr. Somani's expertise will be crucial in enabling the company to diversify its range of products and solutions while venturing into new emerging market segments and expanding its satellite capabilities.

Somani returned to Yahsat in this new role on April 1, 2024, after a two-year stint as Chief Executive Officer of the UAE-based international hedge fund consortium, ABS Global.

He holds an Executive Master of Business Administration (EMBA) degree from the London Business School and a MEng. degree in Electrical Engineering, from the University of Nottingham, UK.

Global Connectivity Demands Fuel Rapid Growth of Satellite IoT Market to a US$4 Bil. by 2030

New York City, NY, May 1, 2024 - The satellite Internet of Things (IoT) market is transforming remarkably, driven by technological advancements and an ever-increasing demand for global connectivity. As the world becomes more interconnected, the limitations of terrestrial networks become apparent, particularly in remote and underserved regions. This is where satellite IoT steps in, bridging the gap with its ability to provide widespread, reliable connectivity across the globe. Global technology intelligence firm ABI Research forecasts the market to surge past the US$4 billion mark by 2030, signaling significant growth potential in the market.

"The rapid growth of the satellite IoT market is fueled by several factors, including the decreasing cost of satellite launches, advancements in satellite technology, such as low-earth orbit (LEO) constellations, CubeSats, and Nanosatellites, and increasing demand for untethered connectivity and remote asset management," explains Victor Xu, Satellite Communications Research Analyst at ABI Research.

Technological advancements in IoT devices have made new use cases for satellite IoT emerge at an unprecedented rate, from precision agriculture to ocean monitoring and from connected mines to disaster prediction and response. While satellite IoT currently accounts for only a small portion of overall satellite connectivity revenue, it is growing positively with major players like Inmarsat, Iridium, and ORBCOMM driving the market.

North America, particularly the United States, will be the dominant region for satellite IoT. North America's position as a main region for Satellite IoT can be attributed to several key factors that make it a highly attractive growth opportunity of this technology.

According to Xu, "North America's leadership in the Satellite IoT market is attributable to its early adoption of space technologies, alongside the launch of major commercial space operators like SpaceX, Amazon Kuiper, and Globalstar driving down costs for satellite services. Furthermore, the region's strong presence in key outdoor IoT industries such as agriculture and oil and gas, combined with a favorable regulatory environment, solidify its position."

The Asia-Pacific region is projected to be the fastest-growing market due to several key factors, such as rapid urbanization and industrialization, increasing investments in space technology in China (G60 Starlink and China SatNet (Guowang) LEO mega-constellations), a booming agricultural sector, and rapid economic growth.

The standardized satellite communication technologies, multi-technology/orbit connectivity solutions, and satellite IoT integration with terrestrial 5G networks (NTN) are the key trends with significant opportunities for innovation and growth in the market. Xu concludes, "With the ongoing expansion of the satellite IoT market, the potential of this technology for innovative use cases is limitless, and the diverse applications of satellite IoT will drive the overall market."

These findings are from ABI Research's Satellite Communications: IoT Deployments & Subscriptions market data report. This report is part of the company's Satellite Communications research service, which includes research, market data, and analyst insights. Market Data spreadsheets comprise deep data, market share analysis, and highly segmented, service-specific forecasts to provide detailed insight into where opportunities lie.

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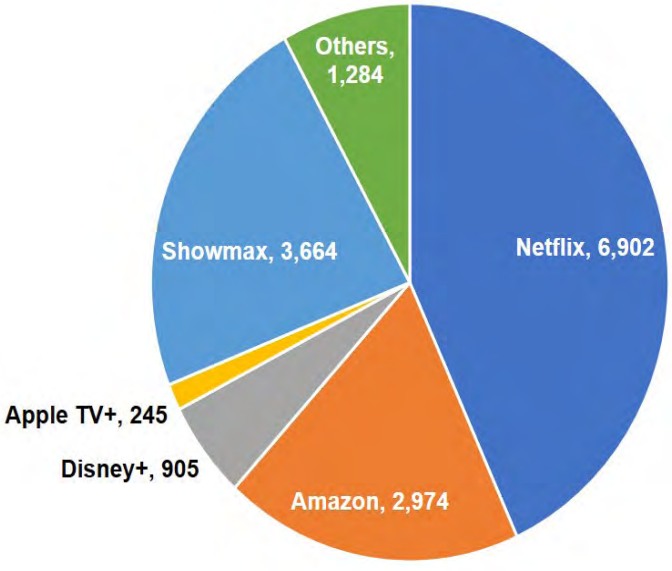
Africa SVOD to add 9 million subscriptions

London, UK, February 10, 2024--Sub-Saharan Africa will have 16 million paying SVOD subscriptions by 2029, up from 7 million at end-2023. South Africa and Nigeria will supply 59% (9.4 million) of the region's total. However, SVOD penetration will still be low by 2029, with only 7.1% of TV households paying for at least one subscription – although this is up from 4.7% at end-2023 according to Digital TV Research.

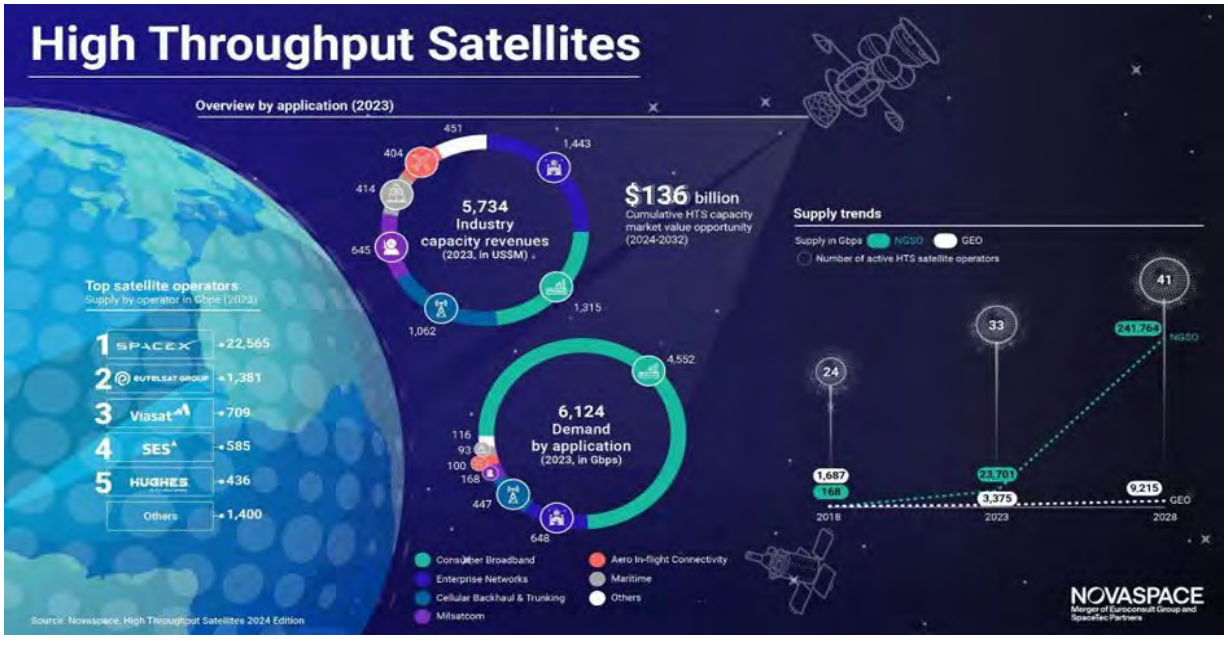
Netflix will remain the SVOD market leader, with 6.9 million subscribers by 2029. Showmax will be the second largest platform with 3.7 million paying subscribers. With its roll-out expected to be limited to South Africa, Disney+ will only have 905,000 subscriptions by 2029.

Simon Murray, Principal Analyst at Digital TV Research, said: "SVOD is a battle between Netflix and regional player Showmax. Rich in local content and sports rights, Showmax now has access to NBCUniversal, Sony Pictures and HBO content. Showmax's parent MultiChoice recently rejected a takeover bid from Canal Plus.".



Source: Digital TV Research

VITAL STATS



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