

Satellite Executive BRIEFING

Vol. 18 No. 2 March 2025



Industry Trends, News Analysis, Market Intelligence and Opportunities

Key Satellite Technologies to Watch

by **Bruce Elbert**

I am going to make the case that technology, in a word, is the key to seeing how satellites will continue to address worldly needs and at the same time guarantee their future. We can look back to a different word in the 1967 movie, *The Graduate*, when the male star is advised by an elder:

Mr. McGuire: I just want to say one word to you. Just one word.

Benjamin: Yes, sir.

Mr. McGuire: Are you listening?

Benjamin: Yes, I am.

Mr. McGuire: Plastics.

Benjamin: Exactly how do you mean?

Mr. McGuire: There's a great future in plastics. Think about it. Will you think about it?

That movie tells us that Benjamin was thinking about other things, like a girl named Elaine, but I think about Technology all the time. So, what about technology is so important?

Technology is the “How” of what we do to address the needs of potential users and people in general. It is what companies like SpaceX, Toyota and Boeing themselves do – taking ideas, physical principles, lots of math, and integrate it with what they obtain from our earth. They make these ideas happen in the real world. And success happens when all of the relevant technologies and their interconnection are properly addressed.

Looking ahead, I see a number of technologies that are

currently at the forefront that will determine what that future in space will look like. Perhaps this is my career guide to the Benjamins and Elaines of the future, but please be mindful that a specific technology may grow stale in no time. An example is the TV picture tube, which one of my college instructors said around the time that movie came out probably wouldn't exist at some point in my career. He suggested that I consider a different



Image courtesy of Boeing

What's Inside

From the Editor	3
Executive Roundtable on the Small and Medium Satellite Launch Market <i>by Bernardo Schneiderman</i>	10
Company Spotlight: Spacebridge.....	17
Ad Astra to the Quiet Man <i>by Lou Zacharilla</i>	17
Products and Services Profiles: SATELLITE 2025.....	24
Better Satellite World: Satellites and the Art of War.....	28
Product Spotlight: Jonsa Technologies.....	29
Show Report: PTC 2025.....	32
Mergers and Acquisitions.....	35
Executive Moves.....	37
Market Trends.....	41
Vital Stats.....	48
Advertisers' Index	48

Continued on page 4



ESTELLA

**It isn't just the solution you need today;
It's the one you'll rely on for years to come.**

Mark Your Calendars

As the year's events calendar fills up with seemingly more and more industry events, mark your calendars for the Fourth Annual Virtual NatSatTel conference in April 2nd this year. Satellite Markets and Research is proud to partner again with the Intersputnik International Satellite Organization and the International Telecommunications Union (ITU) for another edition of NatSatTel.



For those of you who are yet unfamiliar with NatSatTel-- it's a unique virtual conference that free to attend which focuses on the key market and technical trends in the global satellite industry. In just a few hours, where you don't need to book a flight or hotel, you will be able to hear speakers and participate from the comforts of your office or abode and get the latest analyses of the key changes and opportunities in the industry from industry experts.

You can view videos of past NatSatTel conferences and register for free for this year's edition at: www.natsattel.com

We look forward to your participation in this important event.

Virgil Labrador

Virgil Labrador
Editor-in-Chief



EDITORIAL

Virgil Labrador

Editor-in-Chief

virgil@satellitemarkets.com

Peter I. Galace

Elisabeth Tweedie

Associate Editors

Contributing Editors:

North America:

Robert Bell,

Bruce Elbert,

Lou Zacharilla

Latin America:

Bernardo Schneiderman

Europe:

Omkar Nikam (Strassbourg)

Hub Urlings (Amsterdam)

Roxana Dunnette (Geneva)

Asia-Pacific:

Blaine Curcio (Hong Kong),

Naoakira Kamiya (Tokyo),

Riaz Lamak (India)

ADVERTISING

For Advertising enquiries

send an e-mail to:

info@satellitemarkets.com

Satellite Executive Briefing

is published monthly by

Synthesis Publications LLC

and is available for free at

www.satellitemarkets.com

SYNTHESIS PUBLICATIONS LLC

1418 South Azusa Ave.

Suite # 4174

West Covina CA 91791 USA

Phone: +1-626-931-6395

E-mail:

info@satellitemarkets.com

©2008-2025.

No part of this publication may be reprinted or reproduced without prior written consent from the Publisher.

Online Conference
NatSatTel 25
Mark Your Calendar
April 2nd, 2025

Presented by In partnership with

natsattel.com

Key Technologies...
from page 1

line of work, in two words – systems engineering. More on that later.

Technology in the Space Segment

Satellites are distinguished by their ability to launch and operate in the space environment without physical support or repair for a period measured in years. Today, we have seen a revolution in their design and production, moving away from single unit hand-work to large scale batch and production line manufacture. The size and weight of Non-Geostationary Satellite Orbits (NGSO) satellites is greatly reduced as their numbers are measured in the hundreds and thousands to yield an effective constellation capable of meeting or exceeding what we can obtain from just one working Geostationary Orbit (GEO) satellite. Technology enters into the picture for a design that emphasizes cost and ease of test, as well as of launch. From there, the spacecraft bus subsystems are miniaturized and yet they must do the established functions of power generation and storage, attitude and orbit control, heat management and temperature control, telemetry and command. What is interesting is that many of the critical components, like star trackers, reaction wheels and ion thrusters, were developed and produced by the prime contractor rather than from traditional specialists in the US and overseas. But, this could ultimately become like Toyota where the majority of components are procured rather than made in house. Thus, good “make versus buy” decisions are likely to become more important to achieve a cost/effective supply chain.

“...Technology is the “How” of what we do to address the needs of potential users and people in general. It is what companies like SpaceX, Toyota and Boeing themselves do – taking ideas, physical principles, lots of math, and integrate it with what they obtain from our earth. They make these ideas happen in the real world....”

At the same time, the communications payload now employs millimeter-wave amplifiers well above the Ka band that was new to the industry in the 1990s. The proliferated identical small satellites will apply advanced digital processing and adaptive beam techniques that heretofore were seen as the soul domain of GEO satellites in the HTS class. We move from conventional IC, circuit board and RF component design toward the use of FPGA and ASICs along with advanced materials that produce a major portion of the payload on a single substrate. Assembly, Integration and Test (AIT) are simplified since the satellite comes off a robotic production line and can be tested through a single connector using automation (not new to AIT) and Artificial Intelligence (AI) to optimize factory flow and troubleshooting.

I have observed that modern launch systems have evolved with reusable boosters with an assembly of smaller engines rather than a single big rocket. The launch rate at Cape Canaveral has increased from a handful in 2023 to over 100 in 2024. So, all processes involved in launch prep needed to be accelerated. This was unheard of in historical space endeavors.

Technology in the Ground Segment

It is always about the antenna, an important and highly visible element of any ground station. That applies to individual user terminals as well as the larger stations used as gateways to the terrestrial infrastructure and as control nodes for effective traffic and subscriber management. But, with high-powered GEO and much closer NGSO satellites, the antenna size is greatly reduced and amenable to volume production if quantities justify. With a large constellation, the quantity of gateway antennas mushrooms to the point that this segment becomes an operational and maintenance challenge on a scale normally associated with land-based microwave and cellular towers. So, this equipment is designed from unmanned operation with extensive monitor and control ability.

Since 1990, the receive-only and VSAT type of user terminal was simplified since the antenna is aligned only once during installation. Mobil services to vehicles, aircraft and vessels changed to auto-point and auto-track mechanisms and controls, moving into a domain that comports well with NGSO demands. The trick,

Online Conference

April 2, 2025, 12:00 (CET)

Register for Free

NatSatTel²⁵

Key Trends and Opportunities in the Global Satellite Industry

Online Conference Presented by Intersputnik
in cooperation with Satellite Markets and Research



INTERNATIONAL ORGANIZATION
OF SPACE COMMUNICATIONS



natsattel.com

however, was to make a pointing and tracking style of user terminal at a cost comparable to the fixed VSAT even through the device is technically much more involved. This is where the phased array, demonstrated early in the 2000s for in-flight broadband, is the preferred approach and now in high production to meet demand in the hundreds of thousands and even millions of units. Gateway antennas, however, are still mechanical in design but phased arrays that produce multiple beams are in the offing.

K. Kawamura et al.: Management System for Mobile Networks

Today's networks employ the Internet, which in the words of Dr. Vinton Cerf, one of its founding technologists, is "a vast network with the potential to connect people and information across the world, readily available to anyone with a connection." We see that satellites provide the last mile connection especially for those outside of urban areas and in motion as well. We made satellites part of this vast Internet through a high-bandwidth connection at tiering points

earth stations and user terminals to be a key part of the infrastructure, but the overall network demands other ingredients. This is like how the cellular telephone network comes into being where the network is seen in logical terms through dedicated IT resources – signaling and network management. The signaling part provides the transfer of configuration commands and the data needed to set up connections, as well as for monitoring of the elements of the network.

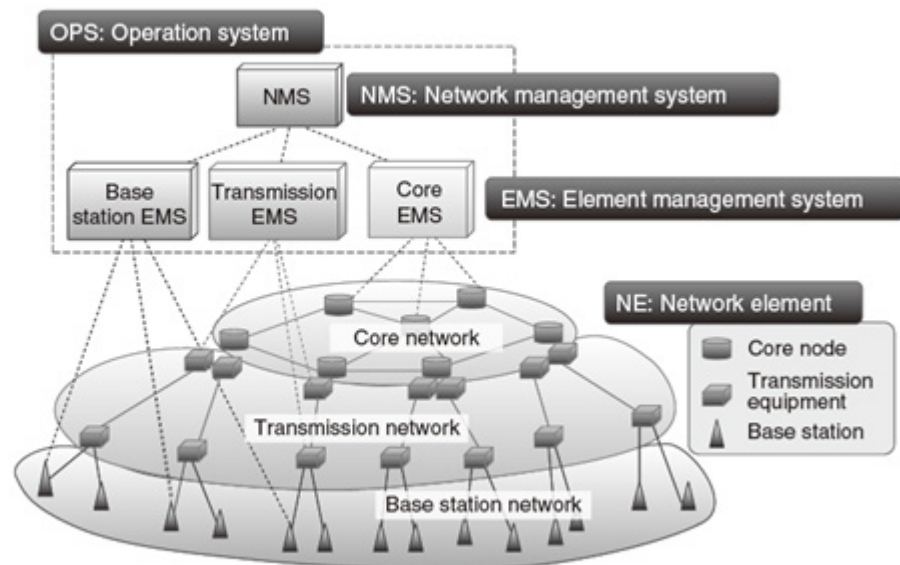


Figure 1
Mobile network management.

Technology in the Network

Satellites only gained commercial value when engineers put the ground elements in place and interfaced them to end users. This is the essence of the network, which is as simple as a point-to-point link to provide a telephone call and, more recently, a data circuit.

and by addressing the vicissitudes of our medium to resolve the protocol aspects. Reducing the latency from hundreds to tens of milliseconds has been the final challenge answered by the NGSO constellations. But, a properly functioning satellite-enabled Internet service needs a lot more.

We can consider the satellites,

This is given in the illustration, below, for a typical cellular network, courtesy of Fujitsu. The Core network, Transmission network and the Base station network have direct analogies in an advanced satellite system of the type now employed for Internet access and mobile satellite communications. The network management part is addressed



iKONG



YOUR ALL-IN-ONE PARTNER

SATELLITE
& FIBER IP

PLAYOUT
& CLOUD

OTT
PLATFORMS

QR CODING &
VIEWER EXP.

CO-LOCATION
SERVICES

Learn more about iKO MEDIA GROUP Companies

eCLUTCH

STN

MENAFlix

iSRAEL



Embedded Beacon Receiver and Spectrum Analyzer Modules Featuring BR-MOD-1-9 and SA-MOD-1-9

- Advanced Spectrum Analyzer and Beacon Receiver Modules; 400-3000MHz
- Ethernet and Serial ports for control and data streaming with enhanced GPIO, serial, and analog output protection; USB for control
- Text-based protocol, web-based GUI
- 100 HZ update rate for beacon receiver
- Extended DC power range of 8V – 33V with enhanced reverse power protection and enhanced over-voltage protection

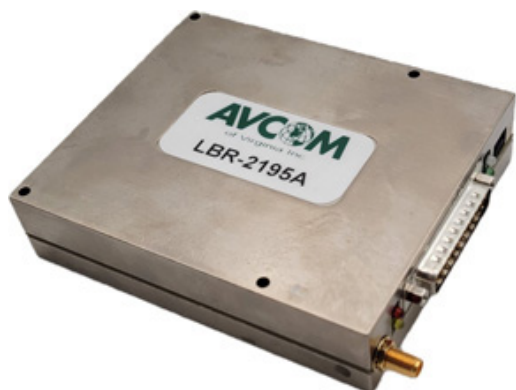


Rack-mounted Extended L-Band Spectrum Analyzer Featuring the EVO-RSA-2290A

- High performance Remote Spectrum analyzer; 400-3000MHz
- Included EVO Software GUI via ethernet
- 2 - 16 Switched Inputs Available



Satellite Beacon Receiver LBR-2195



- Track L-Band CW Beacon Carrier; BPSK Carrier
- Synthesized Direct conversion tuner system
- Serial text-based API interface for easy implementation with simple embedded processors
- Comprehensive API on USB for easy development
- Extended Temperature Range
- Low SWaP-C
- Two enclosure options available

in the Network Management System (NMS) interfaces with these facilities to maintain the command and control data and to make long term and short term decisions regarding provision of services, fall back and recovery from interruptions, and to operate the network as a revenue-earning business. Basically, you can't acquire subscribers and you cannot collect money unless you have the proper network management resources.

The technology within the NMS at the top of this figure is heavily software based and likely contained in servers or through a cloud provider. The software has conventional parts, like operating systems and data management systems, but the critical part is specific to the satellite environment. The satellites in the lower layer of the Transmission network are moving and hence the connections change from minute to minute, which is different from the illustrated terrestrial cellular network where you stay connected to the same base station for all or most of a call. NGSO networks of necessity have to treat all users as if they are mobile.

One of the more interesting technologies that is getting a lot of attention is called a digital twin, conceived as a software representation of the system that allows prediction and emulation of detailed behavior. Achieving this in real time means that the digital twin stays advanced of the real system and NMS. Such schemes have been discussed and demonstrations produced, but so far it has not reached reality on a serious scale. We can also talk about machine learning that collects data and is able to move resources to where they are needed


without human intervention. This example is for a single constellation and NMS, but we have discussed multi-orbit systems that have the potential to guarantee service under literally all conditions. Solving this problem takes more than software, and so a multi-orbit and multi-system approach is needed.

One final innovation is not new to radio communications – it's the cognitive radio technique to gather up unoccupied bandwidth that a real system can't help but leave unused. Through advanced software management of space and ground, these "white spaces" that sprout literally anywhere can be detected and handed over to traffic bearers. Putting this to use means that more services at higher average data rates and more users can be accommodated with a fixed spectrum allocation.

Conclusion

Future satellite constellations and networks likely will employ technologies still in gestation. For one, the venture capital industry is always looking for opportunities in space to invest in. Likewise, leading governments are seeking a competitive edge for space applications and are willing to spend

for what shows promise. Please remember that technology really follows application especially in this new space environment. That means that you need to know what you want to do before you research ways of making the idea happen.

The entrepreneurial mind deals in the "What" to identify an underserved market and developing mission space. The systems engineer who deals in the "How" is the one who works with the entrepreneur to construct a technical approach that makes sense. Once the system is conceived on paper (or on a computer), the needed parts may be identified so that their performance individually and in a system can be understood. This effort will uncover those elements that are not yet available as a commercial product. Literally, you need to explore the technical world and even engage in R&D on your own. The physics and IT that combine to yield this new system become the foundation of the future and opportunity for innovators to yield a competitive advantage. 



Bruce Elbert is the Founder and President of **Application Technology Strategy LLC**. He is a satellite industry expert, communications engineer, project leader and consultant with over 50 years experience in communications and space-based systems in the public and private sectors. Areas of expertise include space segment design and operation in all orbit domains, systems architecture and engineering, ground segment systems engineering, development and operation, overall system performance improvement, and organizational development. He can be reached at: bruce@applicationstrategy.com

The Small and Medium Satellite Launch Market

by **Bernardo Schneiderman**

The small/medium satellite launch vehicle market reveals a significant rise in demand for smaller satellites, driving the development of more versatile and cost-effective launch vehicles, increased adoption of commercial off-the-shelf (COTS) technologies, growing focus on reusability, and new entrants entering the market with innovative launch solutions.

All these factors all contributing to a rapidly expanding market with diverse applications like Earth observation, communication, and scientific research

The key trends in the Launch Services for the Small and Medium Satellite Market are:

Increased demand for small satellites. The primary driver of the small/medium launch vehicle market is the surging demand for small satellites due to their affordability and flexibility for various applications, including constellations for internet access, Internet of Things (IoT), and high-resolution imaging among use for enterprise, government and defense applications.

Development of dedicated launch vehicles. Companies are designing and building launch vehicles specifically for small and medium-sized satellites, optimizing launch costs and increasing accessibility to space.

COTS technology adoption. To reduce development costs and accelerate innovation, manufacturers are increasingly incorporating commercially available components and technologies into their launch vehicles.

Focus on reusability. Similar to larger launch vehicles, there's a growing interest in developing reusable small launch vehicles to lower launch costs significantly.

New market entrants. The small launch vehicle market is seeing a wave of new players entering the scene, including startups, which are bringing fresh perspectives and competition to the industry.

Diverse launch site options. With the need for flexible launch capabilities, companies are exploring various launch sites at global level, including land-based, sea-based, and mobile platforms.

Government and commercial applications. Both government agencies and commercial companies are increasingly utilizing small/medium launch vehicles for various missions, including Earth observation, environmental monitoring, scientific research, communication and other government and defense applications.

Constellation development. The trend of building large satellite constellations for global connectivity is further driving the need for reliable and frequent small satellite launches.

Considering these scenario. we have the following potential challenges:

High development costs. Despite the growing market, developing new small launch vehicles can still be expensive, especially for smaller companies.

Regulatory complexities. Navigating the complex regulatory landscape of space launch operations can be challenging for new entrants at global level.

Competition in the market: With many new players entering the market, competition for launch contracts is intensifying among global players

BryceTech issued a report about Global Space Launch Activity in 2024 analyzed 259 orbital launches and nearly 2900 spacecraft deployed in 2024, tracking key trends in launch activity, providers, and satellite deployments. The report finding include:

- Nearly 60% of launches were conducted by U.S.A. providers
- Commercial providers accounted for about 70% of launches
- Small Satellites, primarily for communications, were the majority of all spacecraft launched at 97%

BryceTech reported that in 2024 the number of small satellites launched by application comprise the following: communications 79%, Remote Sensing 13%, Technology Development 7%, Scientific 1% and others 1%.

Another key item reported is the next generation

satellites in constellations tend to be larger:

- Starlink v1 (~300 kg) vs v2-mini (~800 kg)
- Planet Skysat (~110 kg) vs Pelican (~150 kg)
- Capella Whitney (~100 kg) vs Acadia (~165 kg)
- Iridium (~670 kg) vs Iridium Next (~860 kg)

This report reflects an increased threshold for smallsats from 600 kg to 1,200 kg

- Historical data shows 1,200 kg definition, resulting in the inclusion of 298 satellites from systems such as O3b, Galileo, and Iridium NEXT from 2014 – 2022

The key conclusions from the Brycotech report on Small Satellites are as follows:

Business Outcomes

Smallsat ventures continue efforts to prove their business models and generate revenue, with increasing attention on communications megaconstellations. Macroeconomic factors may have outsized impact on early-stage ventures and influence long-term smallsat market.

Communications Megaconstellations

Smallsat telecommunications operators dominated smallsat activity in 2023 and are continuing deployments in 2024. Launch of these large constellations will influence smallsat activity in the next few years as initial deployments finish and expanded constellations are authorized.

Smallsat Launch Options

Smallsats continue to primarily deploy on medium to heavy launch vehicles. Smallsat operators have other launch

options including small launch and rideshare. In addition, dozens of companies continue to develop new small launch vehicles (many launch and rideshare). In addition, dozens of companies continue to develop new small launch vehicles (many < 500 Kg capacity).

Government Use of Smallsats

In 2023, the United States conducted the first deployments of national security proliferated architectures. Governments are increasingly seeking to leverage smallsats or include them in architecture planning to augment existing capabilities.

Smallsat Driven GEO/NGSO Integration

Organizations are likely to continue and expand Geostationary Orbit and Non-GEO (GEO/NGSO) integration, possibly through additional merger and acquisition activity, for optimal routing of traffic based on consumer speed, coverage needs, and unique remote sensing observations/data fusion.

The companies profiled in the article have been selected based in the stage they are in the market such as product portfolios, market penetration, research and development initiatives in the Small Launch Vehicle Market. : We invited the major players in the market and the companies that agreed to participate in a virtual executive roundtable include: **Robert Sproles**, CEO of **Exolaunch**; **Christian Schmierer**, CEO of **Hyimpulse**; and **Morgan Connaughton**, VP-Marketing Communications of **Rocket Lab**.

Excerpts of the virtual roundtable follows:

Please provide a brief profile of your company and a current status of your launch service capabilities for the small and medium satellite market (LEO, MEO, Equatorial Orbit, and Lunar Orbit)?

Robert Sproles, Exolaunch: Exolaunch is a global leader in launch mission integration and satellite deployment technologies, with headquarters in Berlin, a fast-growing U.S. office in Denver, and expanding operations in Japan and France. With over a decade of

flight heritage, we have successfully launched hundreds of satellites across 32 missions as of February 2025, supporting commercial, government, and institutional customers worldwide. Our multi-launch agreements with leading launch providers in the U.S. and internationally ensure frequent and flexible access to space. Exolaunch's proprietary separation systems—including CarboNIX, EXOtube, Quadro, and EXOpod Nova—are trusted for their precision, seamless integration, and flight-proven reliability. We currently enable access to all Earth

orbits (VLEO to GEO), with expansion into future lunar and deep space missions.

Christian Schmierer, Hyimpulse Technologies: HyImpulse is a German-based space transportation company founded in 2018, with a UK subsidiary. The company develops cost-effective, safe, and reliable launch services using proprietary hybrid propulsion technology, which reduces costs by 50 percent while improving safety and sustainability.

HyImpulse currently offers sub-

orbital and orbital launch services, as well as in-space logistics solutions. The SR75 suborbital rocket became operational in May 2024, with its first launch in Australia. It supports microgravity research, hypersonic testing, and atmospheric studies. The SL1 small launcher, designed to carry payloads of up to 600 kilograms to low Earth orbit. The first SL1 flight is planned for end of 2026.

HyImpulse is also developing the HyMOVE Orbital Transfer Vehicle, an in-space logistics solution that enables last-mile payload delivery and hosted payload services. Commercial operations are expected to begin in 2027. The company is continuously expanding its capabilities to provide affordable, flexible, and sustainable access to space for the small and medium satellite market.

Morgan Connaughton, Rocket Lab: Rocket Lab is the global



Christian Schmierer, CEO, Hyimpulse Technologies

leader in small launch, and we are the second most prolific U.S. launch provider by number of rockets launched per year. Our Electron launch vehicle launches small satellites up to 300kg to LEO, MEO or Lunar orbits and has been in service since 2017. Our Neutron launch vehicle is designed for the medium lift market with a payload capacity of 13,000 kg and is tailored for large constellation deployments as well as national security and defense missions, plus exploration missions beyond Earth orbit. We also operate a variant of the Electron rocket called HASTE (Hypersonic Accelerator Suborbital Test Electron) which provides affordable and rapid hypersonic and suborbital test opportunities for the US DoD and its commercial partners.

Considering the rideshare market for launching small satellites, can you provide some information on how you are addressing the rideshare market at this time and in the future?

Exolaunch: Exolaunch is driving the evolution of the rideshare market by ensuring satellite operators have reliable, efficient, cost-effective, and flexible launch opportunities. Through our long-standing relationships with major launch providers, we secure dedicated rideshare capacity that allows customers to reach orbit on predictable schedules. Our mission management expertise and



Robert Sproles, CEO, Exolaunch

advanced deployment technologies optimize every aspect of rideshare integration, from payload accommodations to precise on-orbit deployment.

Additionally, as demand for rideshare launches accelerates, we are continuously innovating deployment solutions, expanding our integration capabilities, and reinforcing our global infrastructure to support the next generation of small satellite missions. For example, our latest innovation, EX-Otube, is transforming rideshare missions by enabling modular, multi-level payload stacking. This universal adapter allows for maximum flexibility, accommodating a wide range of satellite sizes and configurations while maintaining seamless compatibility with all Exolaunch separation systems. Because EXOtube is fully launch vehicle-agnostic, it integrates ef-

fortlessly with small, medium, and heavy-lift rockets, unlocking new efficiencies for satellite operators.

Hyimpulse: The SL1 small launcher supports both dedicated small satellite launches and rideshare missions, allowing multiple payloads to share a single launch while benefiting from cost efficiencies.

Beyond launch, HyImpulse is developing the HyMOVE Orbital Transfer Vehicle, which not only provides last-mile in-space transportation for satellites requiring custom orbital insertions but also serves as a platform for hosting multiple payloads. This capability enables extended mission operations, technology demonstrations, and hosted payload services for various customers.

RocketLab: Electron is sought after by customers seeking to deploy small satellite payloads to a precise orbit, on a tight or highly specific schedule, often with complex or tailored mission parameters such as orbit raising or multiple deployments to different orbits on the same mission. This level of flexibility is not possible on a large rideshare mission where you're at the whim of the prime or simply being launched to a generic orbit on a schedule you don't get to control. It's why cost per kg is not an accurate measure on which to judge the competitiveness of Electron, as our customers are seeking a bespoke service, not necessarily the lowest cost ride.

Can you provide the number of launches that you have already done since you started the operations or when you are planning to start launch operations for the small and medium satellite market?

Exolaunch: Since our founding, Exolaunch has executed 32 missions, deploying nearly 500 satellites across multiple launch vehicles. With an increasing launch cadence, we are set to deliver a record number of missions over the next several years. As we scale operations, we are investing in expanded integration facilities, global logistics, and an accelerated U.S. hiring strategy to meet the growing demand for our services.

Hyimpulse: HyImpulse has successfully launched the SR75 suborbital rocket in May 2024, demonstrating its hybrid propulsion technology. The company is now advancing towards the first full-scale test flights of the SL1 small launcher, with commercial orbital launch operations planned to begin in 2026.

Rocket Lab: 60 Electron launches since the first launch in May 2017. Our medium lift Rocket, Neutron, is scheduled to make its debut later this year.

What differentiates your company and your offerings from your competitors?

Exolaunch: Exolaunch stands



Morgan Connaughton
VP-Marketing Communications
Rocket Lab

out through our proven flight heritage, cutting-edge deployment technologies, global launch access, and unmatched mission expertise. Our industry-leading separation systems offer the highest levels of precision and reliability, making them the preferred choice for satellite operators worldwide. With our latest products like Quadro and EXOtube set to enter the market soon, we are even more capable of optimizing payload configurations for more efficient and adaptable rideshare launches.

Exolaunch handles every aspect of satellite integration in-house, including design, manufacturing and testing of our separation system hardware, ensuring mission success through a hands-on, end-to-end approach. Our deep expertise in mission planning, payload integration, and deployment logistics enables us to provide customers

SECURE AND RELIABLE CONNECTIVITY ACROSS MENA

EshailSat delivers satellite services for broadcast, broadband, mobility, corporate and government customers across the Middle East, North Africa and beyond.

OUR PRODUCTS AND SERVICES INCLUDE:



VIDEO SERVICES

- Direct-to-Home
- Broadcast Distribution
- Broadcast Contribution & Occasional Use
- Digital Satellite News Gathering
- Playout & Media Services



TELECOM SERVICES

- VSAT Networks
- Cellular Backhaul
- Maritime Services
- Oil & Gas / Energy Services
- IP Trunking
- Mobility Services



TELEPORT SERVICES

- Antenna Hosting
- Private Data Center Suite
- Co-Location Services
- Partial / Full Rack
- Studio Spaces





Exolaunch's EXOpod Nova.

ue to focus on incremental improvements to liquid propulsion, and competing with SpaceX, Hy-

with seamless, customized launch solutions. Through multi-launch agreements with major providers, we secure regular and flexible launch access, giving customers a competitive advantage in reaching orbit on their terms.

Hyimpulse: HyImpulse differentiates itself through its hybrid propulsion technology, which is safer, more cost-effective, and environmentally friendly compared to traditional liquid and solid propulsion systems. Our paraffin-based hybrid engines simplify design, reduce infrastructure requirements, and eliminate many safety risks associated with conventional fuels. This allows us to offer launch prices at approximately half those of competitors, while maintaining financial sustainability.

A key advantage of HyImpulse is its pre-fueled, long-term storage capability, enabling rapid deployment without extensive ground support, allowing for a flexible and responsive launch solution.

While most companies contin-

Impulse is taking a fundamentally different approach with hybrid propulsion, offering a disruptive and more efficient solution. This unique technology ensures our ability to compete effectively and sustainably. By focusing on innovation and leveraging the inherent strengths of hybrid propulsion, HyImpulse is positioned for long-term success as a leader in cost-effective and responsive launch services.

HyImpulse has demonstrated exceptional capital efficiency by achieving the SR75 suborbital rocket launch in May 2024 with just €16 million in equity funding and a team of 55 employ-

ees. This achievement highlights our ability to develop and test advanced spaceflight technologies at a fraction of the cost compared to industry norms. While many competitors require hundreds of millions in investment to reach similar milestones, HyImpulse has proven that hybrid propulsion enables a faster, more cost-effective path to operational capability. This efficiency strengthens our ability to scale, innovate, and deliver competitive launch services while maintaining financial sustainability.

Rocket Lab: Electron has flown more than any other orbital small launch vehicle in history. It's performance, cadence and reliability are unmatched. Electron



Rocket Lab's Electron Rocket.

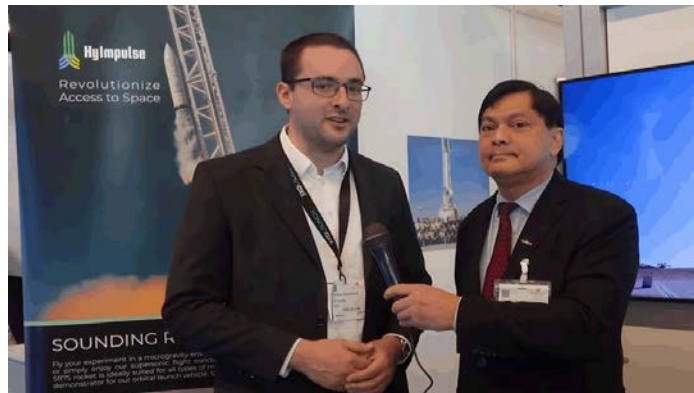


HyImpulse successfully launched their SR75 rocket from Southern Launch's Koonibba Test Range in Australia on May 3, 2024.

also offers customers unmatched flexibility for launch location as we operate three launch pads across two hemispheres. Launch Complex 1 in New Zealand (2 pads) and Launch Complex 2 in Virginia (1 pad). Launch Complex 1 was the world's first private orbital launch site, giving us exclusive use of it enabling us to avoid queues and delays at increasingly crowded shared launch sites used by multiple rockets and companies. Between the three pads we can support more than 130 launches per year. We have also demonstrated the ability to launch two missions within 24 hours from different pads in two hemispheres. 



Bernardo Schneiderman is the Principal of Telematics Business Consultants. He can be reached at: info@tbc-telematics.com



You can also view a video interview by Satellite Markets and Research editor-in-Chief Virgil Labrador with HyImpulse CEO Christian Schmeirer at: <https://www.satellitemarkets.com/satellite-marketcast>

Spacebridge

by Elisabeth Tweedie

According to Yole Group in the report “Market and Technology Report: RF GaN” the market for radio frequency gallium nitride (RF GaN) devices is expected to grow to US\$ 2.2 billion by 2029, a Compound Annual Growth Rate (CAGR) of 10% from 2023. Though Satcom represents only 10% of the RF GaN market, the market for Satcom GaN devices is forecast to exceed that growth, with a CAGR of 13.7%, to reach US\$220M by 2029, up from US\$ 102 million in 2023. This accelerated growth is attributed to both the increased use and competitiveness of GaN, as opposed to gallium arsenide (GaAs) in ground systems and the proliferation of LEO systems.

David Gelerman, owner, President and CEO of SpaceBridge, is recognized as the innovative pioneer who introduced GaN technology into Satcom over 20 years ago. Although he exited the RF business, via an asset and intellectual property sale in 2018, he remained involved in the industry and launched SpaceBridge Inc. the same year. SpaceBridge is a VSAT ground equipment vendor focused on deploying DVB-RCS2 TDMA solutions to satisfy broadband needs of enterprise, cellular backhaul and government/military customers.

Nevertheless, encouraged by growth in Satcom GaN technology, David turned attention back to RF and initiated efforts to design 3rd generation GaN empowered amplifier products. As a result of these efforts SpaceBridge is re-entering the RF business with a full suite of products addressing C, Ku and X-bands. The BUCs target all frequency ranges from low to Ultra High Power. Ranges, providing an alternative to Traveling Wave Tubes (TWTs).

These RF platforms are outdoor certified so require no additional air conditioning or shelters and support built-in 1:1 redundancy without need for external controllers.

This year’s new product release comes on the heels of 2024’s launch of the ESTELLA VSAT platform. Described as “a transformative satellite communications solution,” Estella is an “all-in-one” highly flexible solution designed to fit the needs of many different market segments. Traditional hubs take up a minimum of one complete rack, Estella, with its small footprint, requires only two rack units, meaning far lower power consumption and cooling requirements. The

**David Gelerman
Reignites RF Innovation!**

- Cutting-edge Gen III GaN technology Amplifiers
- Exceptional Performance, Efficiency & Reliability
- Compact, All-Outdoor Installation with IP67 Rating
- Monitoring & Control via Web Interface & SNMP
- Available from 16W to 3kW Output Power

www.SpaceBridge.com

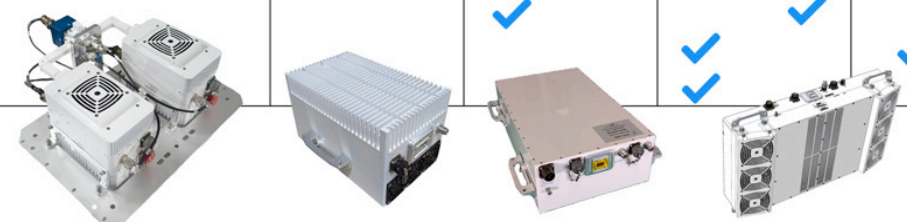
real innovation however, lies in the software.

Estella is an “all-in-one” highly flexible solution designed to fit the needs of many different market segments. It combines 3D multi-frequency time division multiple access (MF-TDMA), with dynamic single channel per carrier (SCPC) and burst mode-frequency division multiple access (BM-FDMA). Each of these technologies have advantages, but come with trade-offs.

TDMA assigns specific fixed time slots to individual terminals so that the total bandwidth can be shared without interference, but since the parameters are usually fixed to accommodate the most-demanding user or terminal, it doesn’t provide the most efficient use of bandwidth and comes with high overheads. 3D TDMA on the other hand, permits variable timeslot sizes enabling each remote to utilize a modulation/coding/block (MCB) size based on its needs.

SCPC in contrast, dedicates a channel to a user, which is ideal when an application needs consistently high bandwidth, for real-time video or sustained communications, for example, but wastes a lot of capacity when used for bursty applications. WaveSwitch, an integral part of Estella, allows

	Form Factor	Low Power			Medium Power		High Power		Very High Power		Ultra High Power
	Band	C	X	Ku	C	Ku	C	Ku	C	Ku	Ku
Rated Output Power (W)	25			✓							
	40	✓		✓							
	50	✓	✓	✓							
	80	✓									
	100	✓	✓								
	125	✓									
	200				✓						
	250				✓						
	400							✓			
	500							✓			
	800								✓		
1000									✓		



SpaceBridge is re-entering the RF business with a full suite of products addressing C-, Ku- and X-bands. The BUCs target all frequency ranges from low to Ultra High Power. Ranges, providing an alternative to Traveling Wave Tubes (TWTs).

remotes to be switched between dedicated SCPC carriers and shared TDMA carriers preserving full bit count integrity on a per burst interval.

BM-FDMA or Dynamic Rate Assignment (DRA) defines the return link channel/carrier per burst to accommodate constantly changing traffic patterns. This means that the carrier definitions are created dynamically every burst interval. This is particularly important for applications that demand high security, as the frequency allocations are constantly changing, which makes carrier detection and interception very difficult.

Estella essentially, optimizes bandwidth utilization by allowing the delivery of services over common bandwidth pools. TDMA and/or WaveSwitch (SCPC like carriers) carriers are created dynamically, in order to optimize satellite performance and service delivery. In essence, ESTELLA performs network wide link budgets every 26.5 millisec-

onds, ensuring the system responds rapidly to accommodate network demand changes and provide protection against link degradations

Every burst interval, Estella determines whether a remote would be best served by a TDMA or SCPC link, in order to optimize bandwidth usage and network performance. This can provide up to a 15% higher throughput compared to dedicated TDMA carriers.

This complete flexibility coupled with the inherent security characteristics of Estella means that it is suitable for a wide range of markets. For example, for cellular backhaul, a data-centric network, Estella gives mobile network operators (MNOs) the opportunity to right-size their networks according to their specific needs. Bandwidth sharing, traffic optimization, efficient forward/return link, and quality of service (QoS) enforcement, are just some of the characteristics of Estella suited to this market.

For a Broadband ISPs the scalability of Estella, (it can reach thousands of remotes if necessary), is a huge plus, as its ability to support oversubscribed services. Estella also supports transmission control protocol over IP (TCP/IP), an acceleration technique that minimizes latency, so important for operators of networks using geostationary (GEO) satellites. Similarly for large scale Enterprise Networks (bank branches, gas stations etc.) the same advantages apply.

Internet of things (IoT) networks, frequently involve massive networks spread over large geographical distances, but tend to need low data rates, unless there is an exception, when one particular remote may need to switch to high data rate. For example, if low pressure is detected on a pipeline, it may be necessary to send a remote with a camera to that area to locate leaks. Estella's cost effective, low power requirements make it an ideal hub for these networks.

Military SATCOMS is one of the key target markets for Estella, as not only is this segment growing in importance for satellite communications, the inherent features built into this hub are ideally tailored to this very demanding market segment. For example, Estella may be deployed in geographically redundant mode. This means that in the event of any physical or cyber threat, a remote passive hub can be brought online or traffic transferred to another (geographically distanced) active hub, minimizing critical downtime. In addition, the inherent security features incorporated into Estella, give military users confidence that their demanding requirements will be met. These features include: robust communications security advanced electronic signature (COMSEC AES)256 encryption on both the forward and return link, protecting transmissions from interception, and also DRA and frequency hopping spread spectrum (FHSS) which obfuscate the return channel to defeat jamming and interference.

It is hardly surprising then, that the first user for Estella is the Chilean Ministry of Defense, a user for which performance and service delivery is critical. In partnership with Telcoven (a global Systems Integrator), SpaceBridge announced last year that it had signed a contract with the Chilean MOD to modernize the satellite technology used by the government of Chile. Carlos Cabrera, CEO Telcoven, Chile commented: "As the turnkey integrator for the modernization of Chile's satellite telecommunications

system. Telcoven is proud to leverage SpaceBridge's Estella VSAT hub system. This collaboration underscores our commitment to providing topnotch solutions for the safety and security of the Chilean people."

David Gelerman commented: "SpaceBridge solutions are second to none. We are extremely pleased how well the market has accepted Estella and our new RF product lines and are excited to be working with our strong partners to roll out new networks and products around the world."

It's unusual to give a hub a girl's name and some of you may be wondering if there is a story behind this. There is indeed. As many of you know Stella Gelerman is also part of the SpaceBridge team. Her name is derived from the Latin word for "star," a beacon of light and hope that illuminates the path forward. The hub name was chosen by SpaceBridge staff (without the input of family members), both as a tribute to Stella, who is regarded as one of the foundational pillars of the company, and recognized as being one of the forces that have shaped SpaceBridge into what it is today; and also as a representation of the fact that this hub represents the way forward for SpaceBridge, opening new markets and ways to connect.

Some people have had stars or animals named after them. I know of only one lady who has had a hub named after her!



Elisabeth Tweedie is Associate Editor of the Satellite Executive Briefing has over 20 years experience at the cutting edge of new communications entertainment technologies. She is 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. She can be reached at: etweedie@definitivedirection.com

XPERIENCE THE NDS FACTOR



INSTALLING
RELIABILITY

www.ndsatcom.com

MAKING MISSIONS POSSIBLE

- HIGHEST AVAILABILITY
- RESILIENT AND FIELD PROVEN
SATELLITE COMMUNICATION
- RELIABLE SATCOM SOLUTIONS FOR YOUR MISSION

ND SatCom GmbH
Graf-von-Soden-Straße
88090 Immenstaad
Germany



Ad Astra to the Quiet Man

by Lou Zacharilla

Let's face it: it's a cringy time.

People are either unhinged or overwhelmed by life in every part of the world globe. Climate change, vaccine denial, mistrust of government and even the next door neighbor. The lack of privacy and the Portal in college football have brought the wrecking ball our lives. I even read that 25% of young adults believe Artificial Intelligence (AI) has the potential to replace real-life romantic relationships!

And three weeks ago we learned an asteroid had a greater than 2% chance of crashing into the Eiffel Tower. WTF!

If that asteroid does hit the world's most beautiful city or its greatest (New York of course), the news will be spread on satellite news gathering trucks and information will arrive immediately to us on CNN, Sky, CCTV or even ESPN (unless there's a Super Bowl broadcast), thanks in large part to a shy guy who, working from a garage in Asheville, North Carolina many years ago developed the satellite antenna dish that could make it so.

I'm talking about James Luther (Jim) Oliver.

As a kid he spent countless hours in his neighborhood in Buckhead, Georgia in the years after the world war exploring stuff, building elaborate treehouses, hotrods and transistor radios.

When he was eight he worked at his father's service station, where he pumped gas, waxed cars, swept floors, and DID anything else his dad needed help with. He learned from his father the value of hard work and the importance of always doing your best.

He did well in school but joked he could never keep up with his older sister. He was soft-spoken and grew up with a noticeable stutter. He had poor vision, wore thick glasses, and was the smallest kid in his graduating class.

Despite those less than exceptional physical qualities he led an exceptional life.

Much of it revolved around a natural talent for design. He realized soon that Industrial Design made his creative side Flourish. He completed his studies at Georgia Tech



Jim Oliver

University thanks to the unwavering support of his mother, a working-class woman who contributed her entire income to his tuition.

Starting at Lockheed, he designed antenna positioners, sensors, and stabilizers for the U.S. Air Force's Low Earth Orbit spy satellites. He soon won a design award which led him to Stanford University's Design Engineering program.

A beautiful redhead named Carol came along--she had a big smile--and then Carol had a wedding ring. A child followed.

He joined Scientific-Atlanta and became part of communications and satellite history when he designed the antennas that put two breathtaking new innovations--ESPN and CNN--on the air.

In 1981 he got the confidence to leave the corporate world and started his own design and manufacturing company. It did well--very well. At 48, Jim sold it and planned

AvL
TECHNOLOGIES

**INNOVATIVE.
RELIABLE.
READY.**

**Let's Talk Multi-Orbit
SATELLITE Show Booth 2118**



**2.4m
Full Hemisphere
Tracking Terminal**

**Multi-Orbit
GEO / LEO / MEO**

**X, Ku & Ka Bands
SATCOM / SIGINT
EW / EO**

to lay back some and eventually retire.

But something happened in 1989.

Maybe it was the peace and beauty of the mountains in Asheville, North Carolina. Maybe it was a consulting gig or a long shower or walk in the hills--but whatever it was, it led him to the concept of designing satellite communications antennas that could be mounted on trucks--creating news-gathering vehicles that could send live news feeds from anywhere. He built the first vehicle-mounted antenna in his basement, liked what he wrought and remembering those treehouses and hotrods, launched a company called AvL Technologies--- Avl being the call letters for the Asheville airport. that's how much he loved the place.


The company became legendary. I was proud that AvL Technologies was a regular sponsor of World Teleport Association's annual Teleport Awards for Excellence Luncheon at Satellite. I used to tease him that he must enjoy paying for bad jokes. Always the gentleman, he said, "Your jokes are funny."

Today if you walk around any city in the world or the lot of any trade show, you are likely to see a news organization's truck with an antenna on it pointed to the sky. When you do, think about Jim Oliver, the stuttering kid from Georgia in the USA who figured out how to get them up there to receive images from space.

He remained painfully shy with a soft voice and a few years ago his voice began to fade and his health slipped.

In 2020 my Better Satellite World podcast at SSPI produced a series on "Risk" and we wanted Jim to talk to us. But he didn't do podcasts or many of these kind of things. Especially now that he was aging.

But he said if I did the interview, he would do it. I was flattered, prepared like hell and we had what turned out to be our most listened-to podcast.

The following year, he was inducted into the industry Hall of Fame along with journalist Peter B. de Selding and Kathy Leuders of NASA's Human Exploration and Operations Mission Directorate. That same year he was diagnosed with Parkinson's disease but kept an active life as a philanthropist. James Luther Oliver lifted off for eternity on February 7, 2025. Ad astra Jim! 

"...Today if you walk around any city in the world or the lot of any trade show, you are likely to see a news organization's truck with an antenna on it pointed to the sky. When you do, think about Jim Oliver, the stuttering kid from Georgia in the USA who figured out how to get them up there to receive images from space..."

You can listen to the Better Satellite World Podcast remembering Jim Oliver here:

<https://www.sspi.org/articles/better-satellite-world-podcast-ad-astra-remembering-jim-oliver>



Lou Zacharilla is the Director of Innovation for the Space & Satellite Professionals International (SSPI) www.sspi.org and host of The Better Satellite World podcast every Monday. He can be reached at: LZacharilla@sspi.org



Read the latest news, analysis, market trends, executive moves and many more at: **www.satellitemarkets.com**



Spotlight on key products and services to be showcased at SATELLITE 2025 *Washington, D.C. USA, March 11-13, 2025*

ACORDE Technologies

visit ACORDE booth # 2145



ACORDE manufactures reliable and field proven solutions such as compact and lightweight BUCs (X/Ka) and LNBS/LNAs, introducing new and efficient technologies such as GaN, and versatile approaches such as dual and quad sub-bands integrations. ACORDE offers built-to-spec up to Q/V-band under MIL-STD-810G/461E for ground, naval and airborne platforms.

For more information go to: www.acorde.com

AvL Technologies

visit AvL at booth # 2118



AvL Technologies, Inc. excels in multi-band and multi-orbit mobile and flyaway terminals. Delivering innovative, rugged solutions for both the commercial and defense sectors; providing superior performance and reliability backed by outstanding customer support. An industry leader in next generation satellite technology.

For more information go to: www.avltech.com

AVCOM of Virginia

visit AVCOM booth # 2228



AVCOM of Virginia is a global leader electronics technology company with 30 years of experience in the design, manufacture and support of cost-effective high quality, RF spectrum analyzers, signal monitors, beacon receivers, and test equipment products; serving the commercial and military SATCOM and telemetry markets. Made in the U.S.A.

At Satellite come see live demonstrations of our products featuring the new Rackmount L-Band Satellite Beacon Receiver Module and the SA-MOD-1-9-A-26 spectrum analyzer based on Avcom's software-defined-radio technology platform designed to exceed today's performance challenges. The analyzer is intended for embedded applications required to operate under challenging conditions.



For more information go to: www.avcomofva.com

JONSA Technologies

visit Jonsa at booth # 2163



Jonsa Technologies specializes in cutting-edge satellite communication solutions in making high-quality parabolic dish with VSAT, Flyaway and Maritime antenna for over three decades with capability a in designing, inventing and producing with services of OEM and ODM. JONSA

VSAT solutions offer high-speed internet access, secure data transmission, and seamless connectivity, regardless of geographic challenges. Key Benefits of Our VSAT Solutions include: **Reliable Connectivity:** Our technology ensures continuous connectivity, even in the most remote areas, minimizing downtime and maximizing productivity. **Scalability:** Whether you're a small enterprise or a large corporation, our VSAT solutions can be tailored to fit your specific needs and scale with your business growth. **Cost-Effective:** We provide competitive pricing models that help you optimize your operational costs while delivering top-tier service. **Expert Support:** Our dedicated support team is available around the clock to assist you with any technical issues or inquiries.

For more information, please visit www.jonsa.com.tw or email saccount@jonsa.com.tw

Integrasyys

visit Integrasyys at booth # 1303

Integrasyys' EM&C (Enterprise Management & Control) system is a cutting-edge solution designed by INTEGRASYYS to achieve space and spectrum superiority in a single platform. It seamlessly integrates advanced capabilities across multiple domains, including Satellite Communications (SATCOM), Electronic Warfare (EW), Signals Intelligence (SIGINT), and Geospatial Intelligence (GEOINT). The system enables dynamic management of capacity, optimizing spectrum usage and ensuring efficient operations in GEO, MEO, LEO, and HEO orbits.



With its ability to operate at higher frequencies, EM&C delivers unparalleled transmission rates, reduced latency, and compact equipment for seamless integration into satellite platforms. Its intuitive GUI supports real-time decision-making, empowering operators to adapt to congested or contested environments.

Mission Microwave

visit Mission Microwave at booth # 1621

Mission Microwave



Technologies is at the forefront of the satellite communications industry in shipping high power X-, Ku-, and Ka-Band

BUCs for critical applications in ground, maritime, aviation and aerospace applications for government and commercial industry sectors that require high efficiency, reliability and performance. Mission Microwave brings revolutionary design for RF (Radio Frequency) and microwave electronics, using the latest in GaN semiconductor technology. Mission Microwave's focus is to minimize the size, weight, and power (SWaP) for these critical applications while providing its customers with the best possible reliability.



Mission Microwave X-, Ku-, and Ka-band GaN BUCs

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

ND SATCOM: The future is Now. The Future is SKYWAN 5G

visit ND Satcom at Hall 1 booth # 1027



INSTALLING
RELIABILITY

With over three decades of experience, **ND SATCOM**, headquartered in Germany, is the premier supplier and integrator of innovative satellite communication systems and solutions to support customers with critical operations around the world. Customers in more than 130 countries have chosen ND SATCOM as a trusted and reliable source of high-quality, secure turnkey and custom system-engineered communication solutions.

The company's products and solutions are used in more than 200 transnational networks in government, military, telecommunications and broadcasting sectors. The flagship of ND SATCOM, the SKYWAN platform, enables international users to communicate securely, effectively and quickly over satellite. ND SATCOM's core technologies and diverse applications are:

- SKYWAN, an advanced MF-TDMA VSAT system for establishing wide area networks for military, governments and enterprises.
- FlyAway antennas for various commercial and military uses.
- Tactical Communication-On-The-Move (COTM) for high-security missions on land and sea, enabling mobile command and control.
- Tailored communication solutions for embassy networks, disaster relief and emergency operations, oil and gas explorations, and maritime locations.
- Leading supplier of ATC networks across the globe.
- Specialized solutions for military and defence operations such as mobile and transportable satellite ground terminals.



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

RF-Design

visit RF Design at booth # 1226



For more than 25 years **RF-Design** is developing, manufacturing and marketing 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, many years of know-how, flexibility and the ability to customize products to individual customer requirements as well as a unique customer-oriented service approach have made us a respected partner in this demanding industry worldwide.

At Satellite 2025 learn more about our latest products such as the highly flexible and secure "Fiberlinkplus CompactLine" system, our innovative space-saving handheld Extended L-Band and Broadband "Ecoline Fiberlink", the modular QLink Quad RF-over-Fiber system, the switch matrix system "FlexLink S9E", and the dual RF power meter "PwrM70G". We look forward to talking to you personally about your individual requirements.



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

Spacebridge

visit Spacebridge at booth # 1926



SpaceBridge's ESTELLA provides an open standards based DVB-RCS2 platform serving as a central point for exchange of information and services to individuals, commercial entities, government, B2B and others. SpaceBridge ESTELLA hub solutions are designed to support the well-established, open standards of DVB-RCS2 for TDM/TDMA networks. Those standards, published by ETSI, are the only open, fully documented standards for TDM/TDMA technology.

For more information go to: www.spacebridge.com

Satservice GmbH

visit SateService at the Calian booth # 2533

For over 25 years, **SatService GmbH** from Steisslingen/Germany has been operating as a system integrator, manufacturer and provider of hardware and software for satellite ground segment applications. We provide 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 merging with highly sophisticated products. Our sat-nms product line includes Monitoring & Control NMS/M&C systems, Antenna Control Units, Beacon Receivers, RF-over-Fiber solutions and various other equipment. We are proud to say that our products and systems are running at major satellite operators, teleports, broadcasters and other communication providers around the globe. Meet us and our experts at the Calian booth #2533 and learn more about our latest technologies, services and sat-nms products!



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

Terrasat Communications

visit Terrasat at booth # 2327

More Power, More Innovation, More Reasons to Rely on Terrasat Communications—When Uptime Is Non-Negotiable.

Critical networks can't afford downtime. Terrasat's Tx 1:2 Redundant Systems provide seamless failover protection with intelligent fault detection and automatic switching, keeping uplinks online in any environment. Engineered for high-power applications, this system supports C-, X-, Ku-, and Ka-band networks, making it ideal for gateways, teleport hubs, and mission-critical terminals. Features like Eco-Mode for energy savings, hot standby operation, and a web-based interface for

full system management provide efficiency and remote control.

Experience the next level of resilient, intelligent uplink solutions at Satellite 2025, Booth #2327.



For more information go to: www.terrasatinc.com

WORK Microwave

visit WORK Microwave at Hall 1 booth # 1427

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, NGE0 constellations, direct-to-home broadcast, IP networks, teleport management, government communications, and many more applications.



At **WORK Microwave**, we have the solution. Our mission is to help your data to cross the edges between Space and Ground. RF and digital. Optical and digital. Virtual and hardware on your ground station. We develop ground segment equipment for any of your mission.

For more information, go to: www.work-microwave.com



Satellites and the Art of War

The South China Sea is a triangle of ocean bordered by Vietnam, the Philippines, Taiwan, Indonesia – and China.

In 1988, strange things started happening there. China's Navy fired on three Vietnamese vessels, sinking them and killing 74 sailors. The dispute was over China's claim to a group of mostly uninhabited islands far beyond its territorial waters.

But in China's view, the entire South China Sea was its exclusive property. It made that clear in another battle with a Philippine Navy gunboat. Then everything went quiet – until years later, China began building forts and airfields on island reefs scattered across the Sea.

Strange behavior? Not to one of the most famous generals in Chinese history. Sun Tzu, born 2,500 years ago, is famous for writing a short book called *The Art of War*. It teaches that wars can be won without fighting battles. They can be won, for example, by taking possession of small islands and showing you are willing to fight for them – without doing much fighting at all.

Take China's Maritime Militia. It's made up of hundreds of fishing boats that have surged out of harbors to surround disputed islands and menace US Navy warships. They claim to be patriotic captains defending their nation's rightful claims to the whole South China Sea.

But are they?

A company called Ursa Space



You can view the "Satellites and the Art of War" video on Youtube at:

<https://youtu.be/BSaJLupcK4M>

wanted to find out. Ursa builds data systems that automatically analyze radar images captured by satellite. By automating the process, Ursa can analyze thousands of images taken over months and years.

And that specialty was a perfect match for the problem. The South China Sea is hidden by clouds for half the year. Radar ignores both clouds and darkness, and easily detects the steel hulls of fishing boats.

The Ursa Space analysis revealed an invisible navy in ports across China's southwest coast. More than 150 fishing boats would form up into armadas in port and set sail together. Ursa tracked their voyages to the Sea's disputed zones – even when the ships turned off their legally-required radio trackers. In fact, ships without tracking signals were easier to identify as members of the Maritime Militia.

A report from the Center for

Strategic & International Studies revealed that the Chinese government was paying the Militia to cover their operating costs. Rather than being humble fishermen fired by zeal for their country, the captains seemed to be on the government payroll.

China is hardly the first nation to claim territory beyond its borders. Its Asian neighbors have claims of their own. And there's a reason why the western Pacific between Hawaii and the Philippines was known as "America's Lake." But satellite technology and companies like Ursa Space ensure that countries trying to win wars without fighting can no longer do it out of the world's view.

Produced by Space & Satellite Professionals International SSPI, see more stories and videos of satellite making a better world at: www.bettersatelliteworld.com



WORK



Shaping the Future in
Optical Communication,
RF Electronics and
Virtualized DIFI Solutions

work-microwave.com



Jonsa Technologies

Jonsa Technologies from Taiwan is a trustworthy manufacturer of communication antennas, and our monthly production capacity has been over one million in a variety of antenna products. We are waiting for the new partner who cooperates with us and creates the win-win situation together.

The best-selling product of Jonsa includes:

0.6M/0.9M Auto and Manual Flyaway

- Ring focus antenna with segments reflector
- Support Ku and Ka band as an option
- Carbon fiber reflector with light weight, high strength and one person can finish the installation within 3 minutes.
- Easy operation with one button.

VSAT (E74/97/120) antenna

- Customized VSAT antenna products
- Correspond with electronic devices, such as integrated LNB and Feedhorn
- Support Ku and Ka band as an option

0.6M/0.9M Ka and Ku band Maritime with Radome

- One-touch commissioning
- High gain and carbon fiber antenna
- Support beacon receiver, DVB-S, DVB-S2, and digital tracking system

For more information, please visit:

www.jonsa.com.tw

or email: saccount@jonsa.com.tw

**At the Satellite show in Washington, D.C.
visit Jonsa at booth # 2163**



JONSA®

- Support Ku and Ka band as an option.
- Carbon-fiber reflector with fast and high-quality transmission.
- The Ku/Ka band antenna can correspond with branded electronic devices, such as Feedhorn and integrated LNB.

JONSA®
www.jonsa.com.tw
saccount@jonsa.com.tw

Link Jonsa VSAT Antenna Cover Your Life

Come & Visit Us | Washington DC | March 11th ~ March 13th 2025 | Booth: 2163



Excellence in RF Equipment

Meet with us at
Booth #1226

SATELLITE 2025[™]
CONFERENCE & EXHIBITION

March 10 - 13, 2025
Washington, DC / USA

...designed for perfect signals

RF Switch Matrix Systems



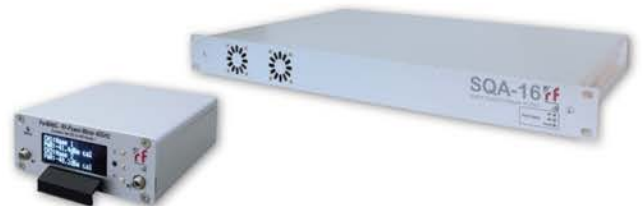
RF-over-Fiber Solutions



RF Line Amplifiers



RF Monitoring Systems



- ▶ Unique – Innovative – Clever RF Switch Matrix Systems
- ▶ RF-over-Fiber Solutions for Indoor & Outdoor Applications
- ▶ Line Amplifiers (Single, Dual, Quad, 1+1 & N+1 Redundant)
- ▶ Innovative & Unique RF Monitoring Solutions
- ▶ Single & Quad Redundancy Switches
- ▶ Active Splitters & Combiners
- ▶ Custom Made Products and Solutions
- ▶ Perfectly Suited for Satellite Earth Stations, Teleports, VSAT ...

PTC Highlights Key Issues for the Satellite Industry

by Bruce Elbert

For someone who has attended the Pacific Telecommunications (PTC) Conference since the 1980s, the event this year proved vital to its future. Held in Honolulu, Hawaii from January 18 – 22, 2025, the conference blew out all records for participation. They now feature themselves as promoting not just telecom, but the broader domain of digital infrastructure. Telecom is at the center to connect islands and continents, but they have introduced aspects of computing and data, lately represented through the cloud and Artificial Intelligence (AI). Major ingredients are fiber optic cables, satellites, and huge data centers with associated support.

This PTC reversed the downward trend set over the past 10 years as this session hosted over 4,000 paid attendees (a 40% increase over 2024). There was substantial interest in how and where data centers would be established, addressing the financial, physical and electrical needs of computing resources that are experiencing exponential growth in the Asia Pacific region. How these get connected to each other and to the Internet requires more fiber than ever before; yet the reliability of fiber is subject to question as several breaks took months rather than days to repair. This opens up the need for high capacity 24/7 satellite communications facilities in GEO and NGSOs as well. Starlink among the NGSOs was mentioned frequently as



an important new facility for broadband throughout the region, and a disrupter of the status quo and savior to remote locations.

Addressing the Digital Divide. The PTC has concerned itself with the shortfall of telecommunications in general and broadband in particular in this vast region. It was revealed that in 2025, all nations in the Pacific will have at least one fiber connection but many inhabited islands will remain unwired. Regardless, satellites will continue in the long term as a viable backup in the event of failure of terrestrial infrastructure. Operators need to consider mobile phone device access, which are especially popular among young people. Satellite can still perform the backhaul function for cell sites in remote places, thus delivering streaming services to handheld devices.

The Year of the NGSOs

Non Geostationary Satellite Orbits (NGSOs), especially Starlink, have impacted existing GEO-based operations around Asia Pacific and the globe. Operations around the region have seen a significant but

not substantial decline in existing satellite communications businesses. Some GEO-based players are also resellers for Starlink, but the service is “sub-grade” as opposed to commercial “carrier grade”. This means that Starlink is sold as is and without commercial “service level agreements” (SLAs) where the service provider gives assurances of availability, latency and guaranteed data throughput.

One of these providers said that it had been “punched in the face” in the last 18 months by the availability and affordability of Starlink. There may be no SLA covering throughput and latency, “but it’s working”. Someone pointed out that the stock market value of SpaceX and Starlink jointly is greater than the rest of the enter satellite communications industry. It was observed that while it may be difficult to “pencil out” a business case for a GEO satellite, everything in GEO is proven, the antennas are fixed, and the service very stable. Perhaps there is opportunity for small GEO satellites with many spot beams in a trend back toward sovereign systems, but at least



MISSION

M I C R O W A V E

THE SHAPE OF SOLID STATE ^(TM)



**X-, Ku-, and Ka-Band BUCs
10-1,000 watts**



MADE FOR A MISSION[®]

one potential did not proceed “when they saw the price tag”.

There is a need for very high bandwidth point to point links for restoration of fiber cable outages. This involves both space and ground segments, which tend toward small capacities relative to what cables can deliver. And, there are examples where a telecom carrier could not get its satellite backup circuit working fast enough after a fiber cut. Repairing a fiber cut can take weeks if not months and you are forced to prioritize the traffic since everything cannot be restored until the fiber itself is repaired.

Artificial Intelligence (AI) – Fact versus Fiction – Separating Hype from Reality.

This interesting session on AI addressed the question for literally everyone in attendance, so the large ballroom was packed with standing room only. Panelists included academics from Columbia University Business School and Keio University, Japan, along with GPU chip maker Nvidia, and major regional players in data center development and operation. The prevailing view is that the current applications of AI are still limited, mainly “chat-boxes” like ChatGPT. Still, corporations in health care and pharmaceuticals are starting to use it. As a technology, AI is decades old and it reappears at the forefront from time to time. But, this time, the potential impact is big in terms of the data centers that require computing resources, fiber connections and, importantly, electrical power.

Columbia Business School is positive but realistic. “Nobody’s making money, and the value is overstated in the near term.” He cited the dooms-



day scenarios for loss of privacy and even humanity. Nvidia, the 25 year old GPU chip maker that has benefited the most from the AI craze, described its desire to promote more AI application and collaboration among the providers. This burgeoning industry needs more in the way of application and its exploitation from the initial start with chat-box and a few others. Keio University said they need the Japanese government to take a role because electricity is expensive in Japan, and a lot of development is needed to produced innovation. He mentioned the idea of artificial drone “bees” to pollinate farms and orchards.

But the data center providers worry about the payoff from a long-term investment. “An 18 month market doesn’t make it for a 40 year investment” in a data center and associated power resources. Columbia Business School expressed optimism about the electrical power situation in the US with the new administration’s policy of “drill, baby drill”. Health care will improve – you will get a diagnosis online, reducing inequality of the service and stress on the health care system. In general, business models will change or be modified.

The Leap to the Data Economy

The annual satellite leaders luncheon highlights trends for the satellite segment of the global telecommunications industry. Today’s panel concerned itself with the monumental

impact of Starlink on existing providers and users. Service providers from Italy, the US and Alaska stated that they have adopted Starlink where it fits best but other GEO and NGSO systems can still compete based on the requirements. One said that they acquired a former GEO video uplink site and converted it to NGSO for data because it already had a lot of digital support. The site was also close to the digital access point.

To obtain multi-orbit coverage, there is the prospect of chip sets that can be used in ground terminals under software control. This can be extended to terrestrial cellular to connect either by space or ground. Some of the Starlink gateways are actually installed in Asia on top of data centers. Intellian, which has provided the first user terminals for OneWeb, now has a flat panel as well as a portable gateway antenna solution. The new NGSO operators are dealing with the regulatory challenges, like introducing services in difficult countries like Brazil.

The moderator asked each participant for their reason for taking parting in PTC 25. All expressed that its value is the opportunity to meet with others and seek mutual opportunities. One example was that he found potential partners and providers with valuable experience and contacts to facilitate work in the region. Another stated that he is learning about technical developments that were not apparent.

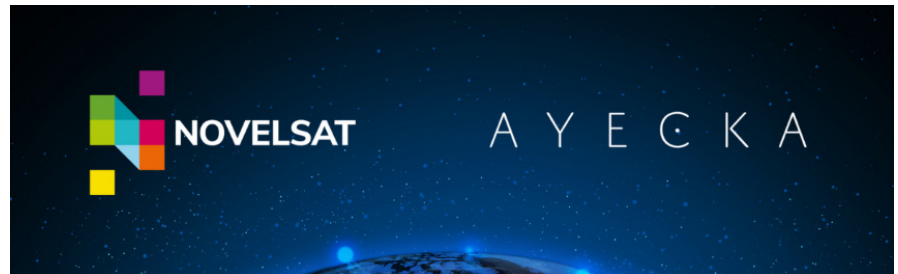
NOVELSAT and AYECKA Merger

Satellite service providers NOVELSAT, and AYECKA, announce their unification, creating a single, unified company. This strategic union combines the companies' complementary technologies and expertise, positioning the converged company to offer end-to-end solutions across multiple markets, including broadcast, media, government, defense, mobility, and IoT.

Both NOVELSAT and AYECKA bring strong engineering foundations and a diverse portfolio of transmission, video processing, and security capabilities in different market sectors. This convergence leverages NOVELSAT's extensive global presence to scale AYECKA's specialized offerings internationally. Combining NOVELSAT's expertise in high-capacity broadcast and broadband solutions with AYECKA's tailored solutions for government and defense markets, forms a unified, multi-segment provider ready to address complex connectivity demands. The new entity is poised to drive strategic investments in next-generation connectivity solutions, fueled by powerful technological synergies.

"AYECKA and NOVELSAT joining forces represents a strategic move that expands market reach and enhances our ability to deliver mission-critical solutions," said Avi Barda, President of AYECKA. "By combining our unique capabilities, we can offer a more comprehensive suite of solutions, better meeting the demanding needs of customers across government, defense, broadcast, and

IoT sectors, driving innovation and growth across these high-value markets. Together, we can deliver robust



connectivity solutions that respond to the unique requirements of our global customers."

Gilat Completes Acquisition of Stellar Blu Solutions LLC

Gilat Satellite Networks Ltd. (Nasdaq: GILT, TASE: GILT) announced that it has successfully closed the acquisition of Stellar Blu Solutions LLC, a US-based provider of next-generation SATCOM terminal solutions.

Gilat expects its annual revenues from Stellar Blu to range between US\$ 120 and US\$ 150 million in 2025, based on Stellar Blu's robust backlog. In addition, the acquisition is expected to be accretive on non-GAAP results for 2025. Furthermore, the company estimates that once Stellar Blu reaches its target manufacturing capacity, which Gilat expects will occur during the second half of 2025, Stellar Blu's EBITDA margin is expected to be above 10%.

"This acquisition is a pivotal step in our strategy to expand Gilat's presence in the growing In-Flight Connectivity (IFC) market," said Adi Sfadia, Gilat's CEO. "We expect Stellar Blu's cutting-edge technologies, combined

with Gilat's advanced IFC solutions to position us as a market leader for both commercial and business

aviation, as well as adjacent high-end mobility markets that are ideal for Electronically Steered Antenna (ESA) applications."

The acquisition's consideration at closing was US\$ 98 million in cash, as adjusted. Although the Company had over US\$ 115 million in Net Cash at the end of 2024, the company used a new secured credit line of US\$ 100 million from HSBC Bank USA and Bank Hapoalim to fund US\$ 60 million of the consideration paid at closing. The remaining US\$40 million, from the secured credit line, along with the company's resources, is expected to be called upon and cover potential earn-out payments. The three year loan will bear interest at a rate of SOFR plus 2.6% to 3.35%.

Funding this acquisition through a combination of the company's resources and a secured credit line will provide Gilat with additional flexibility given the opportunities in the market.

The consideration payment in connection with the acquisition may increase by up to an additional US\$ 147 million in cash, conditioned upon the acquired business achieving operational and strategic business milestones, during the first two years that follow the signing of the agreement.



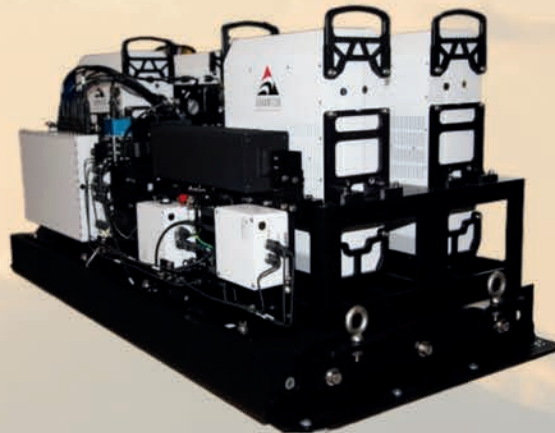
Scan to request
a quote

High power & High bandwidth

- From 50 watts to 16,000 watt transmit power
- L/S-, C-, Low X-, Std X- and Ku-bands
- Indoor and Outdoor Solutions
- Reliable Solid-State Technology
- Expert redundancy / combiner architecture
- State-of-the-art M&C

Smarter Solutions Global Reach

Advantechwireless.com



AdvantechWireless.com

Comtech Appoints David B. Kagan to its Board of Directors

Chandler, Ariz. February 18, 2025--Comtech Telecommunications Corp. (NASDAQ: CMTL) announced that the Comtech Board of Directors has appointed **David B. Kagan** as an independent director to the Board, effective February 13, 2025.

Kagan has deep experience leading satellite communications companies over the course of his career, which spans more than 35 years. Most recently, he served as CEO of Globalstar, where he drove significant top and bottom line improvements. He also expanded Globalstar's services beyond the legacy of one-way messaging and GPS to focus on satellite IoT and was a key contributor in securing the industry's first service offering enabling direct-to-device satellite capability. Before that, he served in leadership roles at ITC Global, Globe



David B. Kagan

Wireless and Spacenet, among others.

Kagan, 63, served as chief executive officer of Globalstar, Inc., from September 2018 to September 2023, where he also served as president and

chief operating officer from December 2017 to September 2018 and from January 2016 to March 2017. From March 2017 to November 2017, he was the chief operating officer of SpeedCast International Limited. Mr. Kagan previously served as president of ITC Global LLC from August 2014 to September 2015, and president and chief executive officer of Globe Wireless LLC from June 2011 until it was sold to Inmarsat in August 2014.

Prior to that, he served as president and chief executive officer of Maritime Telecommunications Network from January 1997 to December 2008.

Kagan currently serves on the Boards of KVH Industries, Inc. and AscendArc, Inc., and was inducted into the Satellite Hall of Fame in March 2023.

He holds a master's degree of Business Administration from Florida Atlantic University and a bachelor's degree in both Finance and Marketing from the University of South Florida, Tampa.

Tom Jackson Named New Kymeta Chief Revenue Officer

Redmond, Wash., Feb. 18, 2025--Kymeta announced the appointment of Tom Jackson as Executive Vice President and Chief Revenue Officer (CRO). In this role, Jackson will lead Kymeta's revenue-focused initiatives, including strengthening client relationships, expanding the company's presence in key markets and aligning business development efforts with Ky-



Tom Jackson

meta's long-term strategic objectives.

Jackson brings over 30 years of leadership experience in aerospace, defense and commercial markets, having successfully led revenue and growth strategies at organizations such as Sierra Nevada Corporation, GE Energy, Aeryon Defense and Sarcos Defense.

His extensive career includes overseeing global P&L responsibilities of up to US\$ 250 million that were responsible for complex manned and unmanned aircraft programs as well as building sales pipelines of over \$2 billion with customers that have included the US Department of Defense (DOD) and numerous Ministries of Defense (MOD) across Europe, the Middle East and Asia.

Jackson is a retired U.S. Marine Corps Lieutenant Colonel with 25 years of service, including as an AH-1W Attack Helicopter Pilot.

He holds a Bachelor of Arts from The Citadel, the Military College of South Carolina, and an MBA in International Business from Regis University in Colorado.



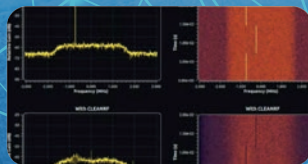
Achieve Space & Spectrum Superiority All In One Place



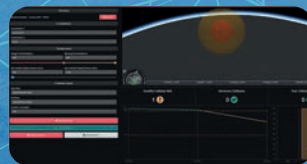
SATCOM



EW/SIGINT



SDA



GEOINT



SATELLITE 2025
CONFERENCE & EXHIBITION

Visit us at
Booth #1303

INTEGRASYS Appoints Richard Hadsall as VP of US Business Development

Madrid, Spain, February 14, 2025--INTEGRASYS announced the expansion of its US team with the appointment of **Richard Hadsall** as VP–Business Development for the US market. With extensive experience in satellite communications, international satellite network design, development & implementation, and classified military communications, Hadsall is an expert in satellite communications and an experienced user of INTEGRASYS products and services.

His innovations enabled historic live broadcasts, including the first transmission from a nuclear submarine and NBC's 'Bloom-Mobile' coverage of the Iraq War, earning him an Emmy Award in 2011. He also pioneered the motion-stabilized VSAT antenna, revolutionizing communications for



Richard Hadsall

maritime, government, and broadcast industries.

For over 10 years in various capac-

ities, Hadsall has used INTEGRASYS tools and systems to streamline his services in multiple companies such as Kymeta, Terran Orbital, and others, supporting commercial and government customers.

In his new role, he will leverage his deep expertise in satellite communications and network design to drive business development and strengthen the definition of new partnerships. This collaboration is poised to boost INTEGRASYS' position in the global satellite communications market, as his wide expertise and industry insights will enhance the company's product portfolio, according to the company.

"At INTEGRASYS, we're certain Richard's governmental vision in global connectivity will be invaluable for our company's growth. He will provide opportunities and user knowledge to help INTEGRASYS support even better US DoD users," said Alvaro Sanchez, CEO of Integrasys.

Ovzon appoints André Löfgren as new CFO

Stockholm, Sweden February 10, 2025 - Ovzon announced the appointment of **André Löfgren** as the company's new Chief Financial Officer (CFO) effective May 1, 2025. He will also be a member of Group Management. Ovzon's interim CFO Viktor Bremer continues within the company as Group Finance Manager.

Löfgren has strong international experience from CFO positions within Skanska, one of the world's largest construction companies. He



André Löfgren

has also been responsible for Investor Relations for Skanska globally and for North America, where he also lived for a few years. Most recently André served as CFO at BoKlok, a housing concept within Skanska originally developed by IKEA and Skanska. André holds a master's degree in Finance and Financial Management.

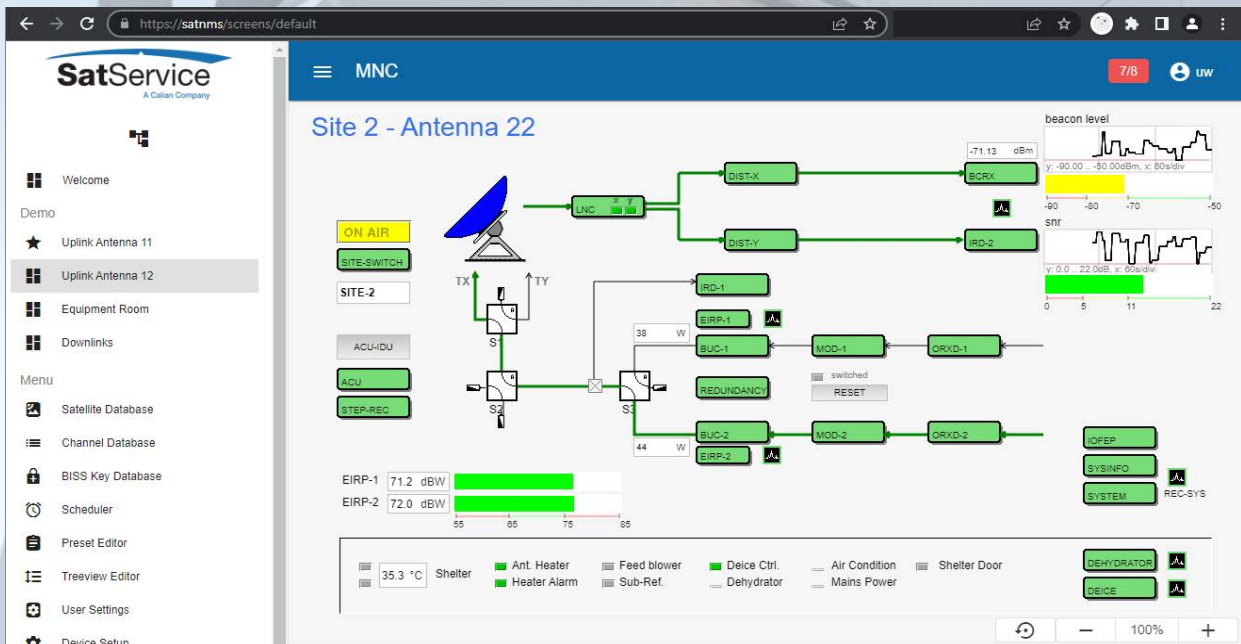
"With the appointment of André Löfgren we continue to strengthen the leadership team at Ovzon. The company has entered an era of accelerated commercialization coupled with disciplined scale-up. With André's solid experience in building international businesses with long-term profitable growth and financial stability, I am certain we will enable Ovzon's continued development and success", says Per Norén, CEO of Ovzon.

"I am thrilled to be joining the team at Ovzon during this very exciting phase of the company's scale-up. While many significant milestones have been achieved in recent years, I ment and control," says Löfgren.



Visit us at Satellite2025, Booth 2533 Hall A

sat-nms Monitoring & Control System



- web browser client
- easy re-configuration
- operator friendly GUIs
- smart work flows
- vendor independent

The new **sat-nms** Monitoring & Control System is part of SES mPOWER

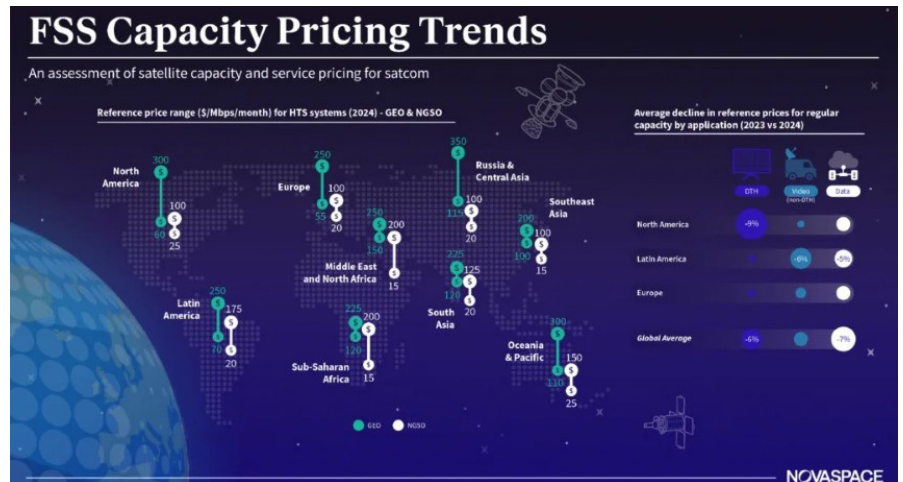
Check it out on www.satservicegmbh.de

FSS Capacity Pricing Faces Disruption as Industry Shifts

Paris, February 19, 2025 – Space consulting and market intelligence firm Novaspaces has released the 7th edition of its FSS Capacity Pricing Trends report, analyzing the shift in satellite capacity pricing as the industry moves from scarcity to abundance. As new-generation satellites drive down costs, traditional wholesale leasing models are under increasing pressure. Operators are responding by adopting value-based pricing and innovative service models to remain competitive. Falling cost structures are reshaping pricing strategies across the sector. Starlink has led the push for lower \$/GB pricing, reaching approximately US\$ 0.20 per month for consumer broadband in most regions. Meanwhile, other operators are introducing competing plans, intensifying market competition. “The shift from ‘scarcity’ to ‘abundance’ of capacity supply is pushing operators to embrace value-driven pricing strategies,” said Grace Khanuja, Senior Consultant at Novaspaces.

The cost base of satellite capacity is projected to fall below US\$ 1 per Mbps per month over the next two to three years. While video pricing for traditional infrastructure remains relatively stable, data application pricing is seeing greater declines due to the rise of NGSO systems. The report also highlights a growing shift toward best-effort services over committed information rate (CIR)-based offerings, varying by industry segment.

New use cases, particularly



Novaspaces report highlights evolving pricing models amid growing supply and cost-efficient capacity

in mobility and agriculture, are emerging as satellite operators explore new revenue streams. Starlink’s expansion into land mobility services at economical price points demonstrates how operators are adapting to changing demand patterns. The ability to deliver affordable, flexible connectivity is becoming a critical competitive factor in the evolving FSS landscape.

The Novaspaces FSS Capacity Pricing Trends report provides a comprehensive analysis of satellite capacity pricing across regions, applications, and infrastructure. It examines evolving pricing dynamics amid technological advancements and increasing capacity from next-generation satellites.

The report evaluates pricing shifts over the past 12–18 months, offering a “best-fit” price range and standard reference levels for different regions and applications.

It also assesses the cost base of

satellite capacity, particularly for GEO and NGSO-HTS systems, factoring in new platforms like Starlink v3 and Amazon Kuiper.

With over 2,500 capacity contracts and 2,800 broadband service plans analyzed, the report delivers detailed pricing benchmarks. It includes a deep dive into service pricing by application, a Starlink pricing database, and business case simulations to determine break-even pricing for sustainable operations.

The latest edition expands mobility service pricing coverage, refines GEO and NGSO-HTS capacity pricing distinctions, and updates cost-based analyses for emerging satellite constellations. Classic and premium editions offer varying levels of historical pricing data, regional insights, and a rich database of satellite broadband plans.



SatelliteAsia

27 - 29 MAY 2025 | SINGAPORE EXPO

A part of
ATX ENTERPRISE

SatelliteAsia - Asia's largest SatCom stage is back as one of the anchor events for Asia Tech x Singapore. This event promises to bring together industry leaders, professionals, and enthusiasts from across the globe to showcase the latest innovations in satellite technology.

This year's conference explores AI, Big Data, and satellite technology reshaping operations, alongside next-gen encryption and cybersecurity strategies. Discussions will also cover LEO constellations, direct-to-device services, and 5G/6G satellite integration, driving the future of global connectivity.

Exclusive for Satellite Markets and Research members: Enjoy 10% off the Premium All Access Pass! Use promo code MP_SMR at checkout to unlock your discount.

[REGISTER TODAY](#)

SatelliteAsia Conference Key Themes

Day 1 - Space Technologies & Exploration

- AI & Cybersecurity in Space
- Space Exploration & Commercial Ventures
- Sustainability & Climate in Space Innovation

Day 2: Satellite Communications & Connectivity

- Satellite Networks & Infrastructure
- Regulatory & Strategic Partnerships
- Smart Cities, IoT & Data Monetisation

[PRE -REGISTER NOW](#)

Meet the 2025 Sponsors and Exhibitors



[APPLY TO SPONSOR/EXHIBIT](#)

Key Takeaways from U.S. Space Launch Market Report

Washington, D.C. February 5, 2025

- The United States finds itself in the position of world leader in launch, with a relatively consolidated market. The United States conducts 50% more launches than it did at the peak of the space race— but more than five out of every six U.S. launches come from SpaceX according to a report entitled "Shaping the U.S. Launch Market: Extending America's Advantage" by the Center for Security and Emerging Technologies (CSET).

While evaluating the American launch market's ability to meet critical U.S. national security and foreign policy needs, the report found the following challenges and opportunities exist in the market:

Opportunities:

The United States leads the world in space launch by nearly every measure: number of launches, total mass to orbit, satellite count, and more.

SpaceX's emergence has provided regular, reliable, and relatively affordable launches to commercial and national security customers.

Alongside SpaceX is a small group of technically viable alternatives. This variety offers the country a measure of resilience in the face of national security threats.

Challenges:

Today's market consolidation coupled with the capital requirements necessary to develop rockets make it difficult for new competitors to break in.

China has shown the ability and willingness to invest the level of

capital needed to create international competitors to the American leaders.

Recommendations:

The U.S. Department of Defense and NASA should:

Conduct research and strategic investment toward in-space transportation technologies.

Execute small satellite missions and expand purchases of small launch vehicle services to cheaply test technology and encourage a competitive future launch market.

Expand launch infrastructure

capacity, dispersion, and resilience to improve U.S. launch capacity in peacetime and safeguard it in case of conflict.

The federal government should promote competition in the commercial space launch industry by continuing to allocate launches among multiple competitive vendors to ensure resilience and innovation.

For more information: Download the report: <https://cset.georgetown.edu/publication/shaping-the-u-s-space-launch-market/>





SAVE THE DATE FOR IBC2025

12-15 SEPTEMBER 2025
RAI AMSTERDAM

#IBC2025



THE WORLD'S LEADING MEDIA AND TECH EVENT



SATEXPO

13-15 MAY 2025

Dubai World Trade Centre

FOSTERING STRATEGIC CONNECTIONS ACROSS THE SATELLITE & SPACE ECOSYSTEM

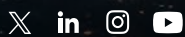
SATEXpo brings together leading experts, cutting-edge technologies, and visionary thought leaders, empowering participants to explore, connect, and shape the future of satellite communications, services, and manufacturing on a global scale.



Organised by



مركز دبي التجاري العالمي
DUBAI WORLD TRADE CENTRE




@satexpome

BOOK YOUR SPACE TODAY

SATEXPOME.COM

New WTA Report Explores the New Capabilities and Business Opportunities Enabled by DVB-NIP

New York, NY, March 3, 2025--The The World Teleport Association (WTA) released The DVB-NIP Revolution, a new research report that examines the new capabilities

A technology provider noted: “With DVB-NIP, we are able to directly broadcast IP packets. If you want to broadcast to devices such as smartphones, tablets or connected TVs you can do that, and you can really leverage the large broadcast footprint of satellite.” 

DVB-NIP can bring, their impact on providers that are already deep into supporting streaming video and the opportunity to find new growth niches for video over satellite. The report is sponsored by Eutelsat Group and ST Engineering iDirect.

“The long-term decline in television delivered via satellite has been in the news for quite a while,” said executive director Robert Bell. “What has received far less attention is how the technology and transmission communities are innovating to bring new capabilities to satellite video distribution applications in markets around the world. Central to that is the DVB Native IP standard. We thank the many contributors to this report for sharing their insights on both the potential of the technology and the results of its early introduction.”

WTA members can access the report by signing into their accounts on the WTA website. The report is free for WTA Members and available for purchase by others. Members may directly download the report by following this link and logging in with their user name and password.



ACORDE
Space & Defence
RF EXPERTS

Challenge the limits

- (1999) Foundation
- (2004) First international airborne program
- (2005) Ka-band first products
- (2010) PAZ satellite program
- (2018) SpainSat NG satellite program
- (2023) Qualifas aeronautical seal

ACORDE

+

ACORDE.COM



MORE POWER
MORE INNOVATION
MORE REASONS TO RELY ON TERRASAT



Intelligent Block Upconverters, Cyber Hardened Core solutions, and Redundant Systems designed for multi-band, multicarrier, and multi-orbit SATCOM networks.



TX 1:2

ADVERTISERS' INDEX

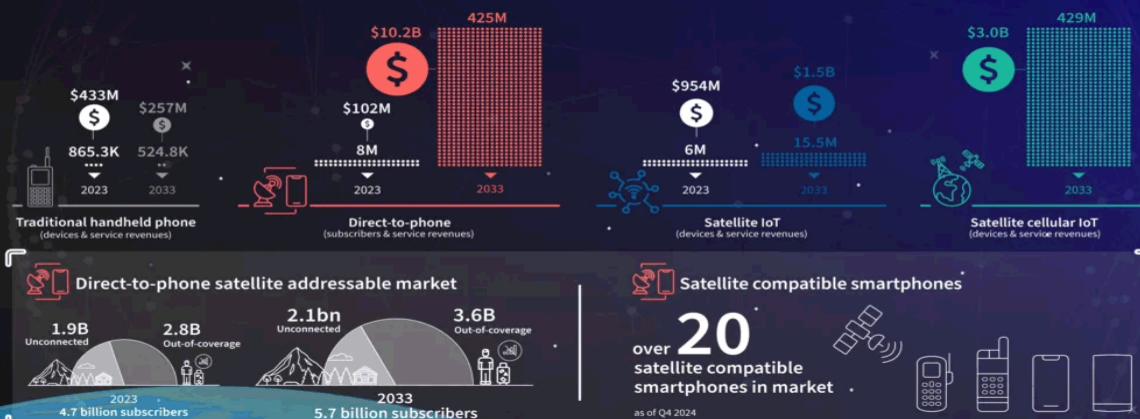
Acorde Technologies.....46 www.acorde.com	Mission Microwave Technologies.....33 www.missionmicrowave.com
Advantech Wireless.....36 www.advantechwireless.com	NatSatTel 2025.....5 www.natsattel.com
AVCOM of Virginia.....8 www.avcomofva.com	ND Satcom.....20 www.ndsatcom.com
AvL Technologies.....23 www.avltech.com	RF Design.....31 www.rf-design-online.de
CABSAT/SatExpo 2025.....45 www.satexpome.com	SatService GmbH.....40 www.satservicegmbh.de
Es'hailSat.....14 www.eshailsat.qa	Satellite Asia 2025.....42 www.asiatechxsg.com/satelliteasia
IBC 2025.....44 www.show.ibc.org	Spacebridge.....2 www.spacebridge.com
iKO Media Group.....7 www.ikomg.com	Terrasat Communications.....47 www.terrasatinc.com
Integrasys.....38 www.integrasys-space.com	WORK Microwave.....29 www.work-microwave.com
Jonsa Technologies.....29 www.jonsa.com.tw	



VITAL STATS

Direct-to-handheld and IoT Market

Advancements in direct-to-device satellite connectivity show growing promise, yet the market remains in its early stages of development



Source: Novaspaces, Prospects for Direct-to-Handheld and IoT Markets, 2024

NOVAPACE
Member of Euroconsult Group and Specific Partners