Satellite Executive BRIEFING
Vol. 19 No. 1 January-February 2026
SATELLITE Markets & Research
Industry Trends, News Analysis, Market Intelligence and Opportunities

The New Space Economy

by Bruce Elbert

You can't get into space without investment, and as the adage goes, you can't make money if you don't spend money. But first you need an idea or vision of what space can do for you and ultimately for a market. We got here through decades of innovation that put satellites in orbit, sent missions into space to the Moon and beyond, and found ways to use these for a variety of applications of value to mankind. The particular mix changes from time to time and today we see that LEO broadband and D2D have permanently changed satellite communications as a medium and a business. The rest of space is involved with earth observation, science and exploration. But some have suggested space commerce as a new way to make a buck off planet, so to speak.

All of this presents many new ways to enter the space economy and the money follows what is attractive and shows potential to be monetized through sales to various parties. I remember how Hughes Aircraft organized itself in the 1970s to engage in various segments of the space industry as it existed then. There were government programs in the defense domain since that customer needed competent technical resources. Then we had that innovative team led by Dr. Harold Rosen that established a commercial business that continues to this day. They drew technology and scientists from the governmental sector that was ahead of them. NASA was engaged in space development and Hughes garnered two important programs: Surveyor, which soft landed robotic spacecraft on the Moon ahead of the manned Apollo program, and Pioneer Venus that orbited a satellite around Venus and sent probes into the atmosphere and onto the surface of that planet. Weather satellites, also GEO, joined the product line since the government had taken a leadership role. In the 1980s and 1990s, Hughes went into the services segment by launching

Continued on page 4

What's Inside

AvL TECHNOLOGIES

2.4m XY

Full Hemispherical Tracking Terminal

GEO / MEO / LEO

X, Ku & Ka Bands

SATCOM / SIGINT / EW /EO

Let's talk about how our technical excellence can help you achieve stronger, more reliable performance.

AvLTech.com **Sales@avltech.com**

EDITORIAL

New Space

"New Space" is not quite new as it hs been around for over a decade now and has made an indelible impact on the satellite industry. However, despites it's having "new" in its name, the space market is continually evolving as the satellite industry adopts and leverages the opportunities in this estimated US $ 600 Billion a year market.

To help navigate this "new" market, our cover story written by our contributing editor Bruce Elbert gives an overview of the new space economy and provides valuable insights drawn from his extensive industry experience on how satellite companies can avail of opportunities in this potential lucrative market.

No discussion of the space market would be complete without China--a major player with very high ambitions for its space industry. To fill us in on the latest developments in this market is probably one of the leading experts in the Chinese space market, Blaine Curcio.

Bruce Elbert and Blaine Curcio are representative of the level of expertise and indusry experience of all our contributing writers. Satellite Executive Briefing contributors are all industry experts who have worked in the industry and have been through the challenges and come up with workable solutions. So, when you read one of the articles in our magazine and our website, satellitemarkets.com, you can be assured that that it was written by an expert with real-world industry experience.

Virgil Labrador

Editor-in-Chief

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

EDITORIAL

Virgil Labrador
Editor-in-Chief
virgil@satellitemarkets.com

Elisabeth Tweedie

Peter I. Galace
Associate Editors

Contributing Editors:

North America:
Bruce Elbert

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

©2008-2026.
No part of this publication may be reprinted or reproduced without prior written consent from the Publisher.

The New Space Economy...
from page 1

its own GEO satellites for TV and data services. All of that employed thousands of engineers and technicians as well as support personnel, and earned the owners good profits that established a valuation in the billions of dollars for the combined venture.

The non-GEO segment of satellite communications appeared in the 1990s in the form of Iridium and GlobalStar to provide a kind of personal communications service to handheld phones (called Direct-to-Device (D2D) today) using the L and S band frequency range, but both ventures went bankrupt so investors lost out. However, new parties came in after the debts were written off to transfer these systems to more viable niche applications, including serving government customers in the US and around the world. And despite the failure of Teledesic and Skybridge in the early 2000s, we now finally have deployed the broadband LEO systems such as Starlink that take over much of satellite communications. From here, it looks like more of the same in terms of services from LEO to all platforms and for interactive communications in nearly any form imaginable.

All of this is pretty mundane compared to some who see space commerce as being like what we saw in the mid-1800s with the gold rush out in the western United States. Some really huge mines appeared, like the Homestake mine in South Dakota that contributed to the overall economic development of the country. Are there minerals or other resources out in space that can be mined and delivered back home? Or should that mining produce material for further extraterrestrial development on Mars and beyond? It's like science fiction but here we are talking about activity that can be financed perhaps privately with the product hopefully monetized for the benefit of investors. In other words, can we make money out in space? Or is this destined to be a repeat of the late 1990s, when the technology was developed to deploy LEO satellite communications constellations, but the hoped-for commercial market did not materialize for these systems.

"...Investors seek opportunities based on innovative technology and the strength of the team. But customers compare cost/effective benefits and thereby decide who wins the space race..."

There is an interesting example from the 1970s that combines a commercial business concept with a seemingly unrelated government activity. A ship with the name of the Glomar Explorer was constructed by a company called Global Marine whose announced purpose was to mine manganese nodules under the ocean. That company was headquartered in the office building in El Segundo, California, where I happened to work. The ship was completed in 1973 and had some interesting technology, including a giant claw made by Kaiser Steel. Hughes Tool was the investor and developer and it was owned by Howard Hughes. There was great interest because it seemed as far out as mining the Moon but perhaps a bit more practical since it would use naval technology, well established over hundreds of years. However, it turned out that this was another government contract with the purpose of raising a sunken Soviet submarine, which Hughes technologists actually did.

Mining is a fundamental business as long as you know what you are mining, how much ore is available, and the concentration of whatever valuable mineral is contained therein. Gold is an excellent example because its quantity is limited, it has value, and it's quite concentrated as far as that value is concerned. There are costs in dealing with something like gold mining, and the story is well understood here on earth. You can pencil this out if you have the information, including the cost of recovery, processing and transfer. But as far as space is concerned, there are many unknowns that put this more in the domain of scientific research than economic development. The 2009 movie, Moon, gave us a fascinating picture of mining of Helium-3 on the far side of the Moon, where this rare isotope was used for a powerful energy source on earth. It's a wild ride but the construct of using robotic excavators to produce a relatively compact substance might demonstrate the principle.

Closer to earth, the rescue of two astronauts on the US International Space Station (ISS) in March of 2025 by the SpaceX Dragon capsule suggests an ongoing need for a kind of 9-1-1 service in space. The idea

ADVANTECH
WIRELESS
A Baylin Technologies Company

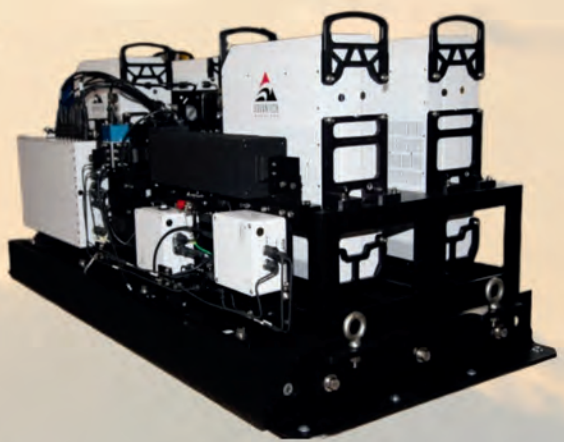
Scan to request
a quote

High power & High bandwidth

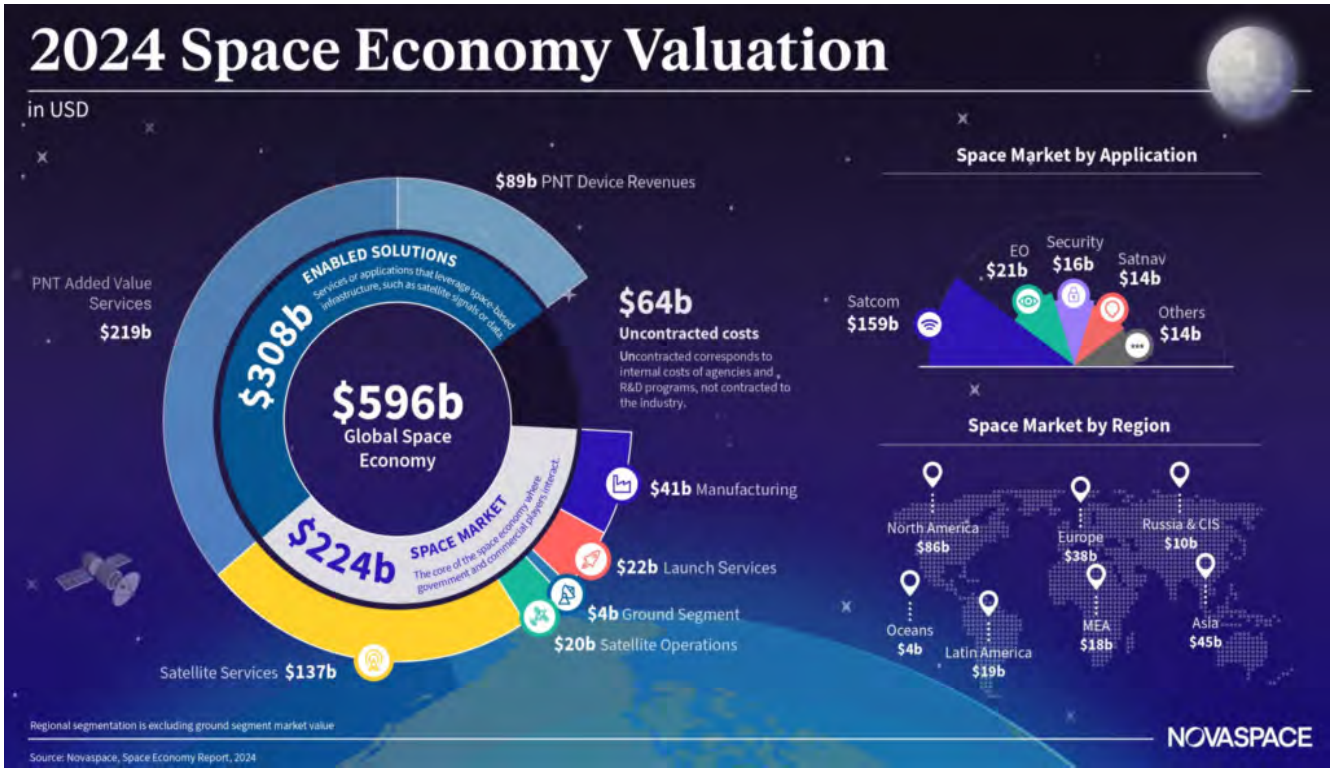
- From 50 watts to 16,000 watt transmit power
- L/S–, C-, Low X-, Std X- and Ku-bands
- Indoor and Outdoor Solutions
- Reliable Solid-State Technology
- Expert redundancy / combiner architecture
- State-of-the-art M&C

Smarter Solutions
Global Reach

Advantechwireless.com



AdvantechWireless.com



is that some organization (company or government agency) maintains a launch vehicle and capsule on the ready to be used to perform this kind of mission. It has some similarity to GEO mission extension provided by Northrup Grumman that has already been used and has a reasonable future as current GEO spacecraft reach end of life.

The TV series, Constellation, which streams on Apple TV+, points to the same problem where one astronaut was left on board ISS after the entire mission encountered the classic "Houston, we have a problem" kind of major onboard failure. Apple's producers did a great job visually including their great sets, animation and simulating weightlessness. They properly employ an orbit period of 90 minutes and the need to store energy during the 45 minute eclipse that blocks the sun from the solar panels. I enjoyed how that single astronaut figured out that she needed to replace the failed batteries used to store energy during sunlight. But the bigger issue is how we can rescue people when stranded. It took nearly a year until the SpaceX Dragon capsule was engaged to return the stranded pair back to earth. Is this a business model to have the rescue ready, like a kind of 9-1-1 emergency response? Again, it's straightforward to estimate the cost of having a rocket and capsule ready, the way SpaceX already accomplished. The cost of having a crew available is another knowable item. But the bigger question is how to fund this venture and how to charge a customer for the availability and use. It was in the business plan for GEO satellites of a startup called AssureSat, but this venture failed to move past funding and early development.

Which brings me to how business people view the government as their customer. It's the age old system of supplying war materiel under contract, lucrative ever since President Abraham Lincoln bought the first steam ships during the Civil War. Whether it's ships on the water or ships in space, the game is the same. When I was on my job search in 1969 at the end of my military service, I was interviewed at Texas Instruments for a position as a communications systems engineer. One of the more impressive managers I met talked about what he called the "Space Biz". He gave the example of Ling Temco Vaught (LTV), a big government contractor based in Texas. He spoke about Jimmy Ling, the electrical contractor who created that massive technology conglomerate. I hadn't considered space as a career and I didn't end up at TI; however, I did take a position as a member of the technical staff at COMSAT Laboratories.

In those days, space business became established heavily in government contracting which means you had to know how to be aware of government needs and how to convince the government of the strength of the offer. Lockheed, Hughes, TRW, Grumman and Boeing figured this all out and effectively partnered with the government to supply whatever capability was called for.

Space was the domain of these large companies as well as a few others in Europe and Asia. We can talk about the degree of vertical integration, that is, how much of a given system is made by this contractor as opposed to a supply chain of numerous other companies. In fact, contributing to the supply chain is a viable business for those who have a critical technical ability and can deliver it at a competitive price. Companies like L3 Communications, now merged with Harris, Sunstrand, Honeywell, CPI and Ball Aerospace have a long record of meeting the needs of these prime contractors. But new players have appeared in the last ten years that receive venture financing because of the promise of the space economy.

Based on past experience, any new device and supplier must first undergo rigorous space qualification, following something akin to NASA's Technology Readiness Level (TRL) certification process. This considers product quality and space worthiness and manufacturer dependability. Further, the prime contractor must itself qualify the product for application in its spacecraft and mission. Back in the 1970s, one of the named primes approached Intelsat with a new vehicle concept, claiming it was qualified based on a partial test model in a lab environment. I am familiar with lab testing because Hughes subsequently assembled a structure with attitude control elements that demonstrated the principles needed for a three-axis attitude control design. But, it was not a full engineering model or prototype spacecraft such as needed for a real program for a customer with its own operation.

Let's take a look at some early space technology ventures that can support the supply chain of prime contractors. Several of the following produce launch vehicles of various sizes and small spacecraft for a variety of missions. Also given are suppliers of key components for spacecraft in the bus and payload.

Launch Vehicles

•Rocket Lab: Not only produces its Electron and Neutron rockets but also manufactures its Photon satellite platform.

•Astra: Develops its own rockets and electric propulsion systems for satellites.

•Blue Origin: Creates reusable launch vehicles like New Shepard and New Glenn, along with its BE-4 rocket engine.

•Relativity Space: Uses 3D printing to create its Terran rockets and offers a platform for designing, building, and flying them.

•Firefly Aerospace: Manufactures its own Alpha and Beta orbital rockets.

•York Space Systems: Provides standardized satellite bus platforms for various missions.

Propulsion Systems

•Accion Systems: Creates electrospray propulsion systems for small satellites based on technology developed at MIT.

•Applied Ion Systems LLC: Aims to lower the cost of electric propulsion systems for nanosatellites and picosatellites.

•Dawn Aerospace: Manufactures non-toxic, electric, and propellant-based propulsion for a range of aerospace applications.

•Exotrail: Provides electric propulsion systems and mission design software for smallsats.

Spacecraft Bus

•Solestrial – manufactures specialized solar panels

•SOLARMEMS – manufactures sun sensors and other sensing devices

•Redwire – manufactures rollout solar panels, structure and other vehicle systems

•Blue Canyon Technologies - supplies integrated Attitude Determination and Control Systems (ADCS), including its own star trackers and a new line of reaction wheels for larger spacecraft, acquired by Raytheon in 2020.

RF Communications Payload

•Quorvo: Solid state microwave transistors.

•Narda-MITEQ – long time supplier of microwave devices

•Erzia – solid state microwave power amplifiers

•MIRAD – passive microwave devices

•Tendeg – deployable reflector Space Optical Terminals

•MBRYONICS, Ireland – StarCom product line for proliferated systems

•TNO, Netherlands – Raytheon funding, deep space terminal

•Mynaric, Germany (US and

Canada) – CONDOR terminal, flight proven

•CACI - Crossbeam tested on Mandrake II

•TESAT, Germany – very experienced in GEO, SCOT products for LEO

•Skyloom, US – Japanese funding, potential EO constellation use

•SpaceX – offering its LEO ISL terminals.

The new space paradigm has produced several prime contractors currently smaller than those who lead the government sector. SpaceX surely is no longer small in this contact and is a powerful force in terms of rockets and small satellites. Others like York and Astroscale have garnered government contracts, and still others like Astranis and SWISSto 2 are up and coming in the commercial GEO sector. Vertical integration as a strategy comes and goes, and today it's a little like that Michael J. Fox movie, Back to the Future, which first played forty years ago. SpaceX has done an excellent job supplying itself with both the complex and the basic, and newcomers like EO provider Planet Labs have exploited this strategy for reasons of confidence, control and perhaps schedule assurance. They reached a quarter of a billion dollars of revenue after just 14 years operating lots of microsats with growing capabilities in terms of photographic and spectral scanning data delivery.

Investors seek opportunities based on innovative technology and the strength of the team. But customers compare cost/effective benefits and thereby decide who wins the space race. In 2000, many of the dot-coms got funded and went public even without revenue from the identified product or service. RateXchange, for example, began as a telephone equipment installer with revenue from commercial customers, but subsequently merged with a public shell corporation to create the first bandwidth exchange on the Internet. Interestingly, there was no underlying technology or team, just an unrelated revenue stream and a catchy name at the peak of the bubble. The presumption of value in bandwidth trading was fake, made worse by the collapse of demand for bandwidth post 2000.

More to the point, some new technology players are getting traction in the government sector, owing to difficult mission demands and hoped-for commercial-like program performance. It is possible that aggressive new firms can produce results as good or possibly better than the status quo. We have large missile defense shields, lunar exploration and even AI in space all the rage. Ideally, you want a technological solution that plays across multiple domains, or you want to have a unique solution for specific but certain applications, probably based on high quality and high price. Both the buyer and seller may be new to this game, in which case caveat emptor. By this I mean that the buyer needs comparable technology and management knowledge and experience when performing the due diligence on supplier and product. Contracts are intended to assure results but there are recent cases where the new supplier discovers they overpromised and underperformed, leaving the buyer in the awful position of either finding an alternative or sticking with the current source and even helping them meet their obligations.

The space game is crowded by new and old suppliers and customers, and the technology is moving quickly. Still, I wouldn't be surprised to see an old-line major gain prominence through its experience and resources. Back during the Apollo program, Boeing was responsible for only the giant first state of the Saturn V rocket while others supplied the rest of the vehicle and payloads. NASA retained responsibility for integration and verification. But the fire on Apollo 1 in 1967 that killed three astronauts lead to a change where Boeing was given responsibility for overall systems engineering, vehicle integration, and mission support. The criticality of Boeing's increased role was demonstrated by the complete success of this part of Saturn throughout all of the launches.

A member of the investment community who spoke at the recent World Space economic meeting in Paris stated that any new venture in space should show a revenue stream. This means that the company should be on track to profitability and valuation. Any new space idea must pass this test. Those that do, like SpaceX, can end up leaders in the space economy of the future.

Bruce Elbert is a Contributing Editor of the ***Satellite Executive Briefing*** and the Founder and President of **Application Technology Strategy LLC**.(www.applicationstrategy.com) 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. He can be reached at: bruce@applicationstrategy.com

Update on the China Satcom Market

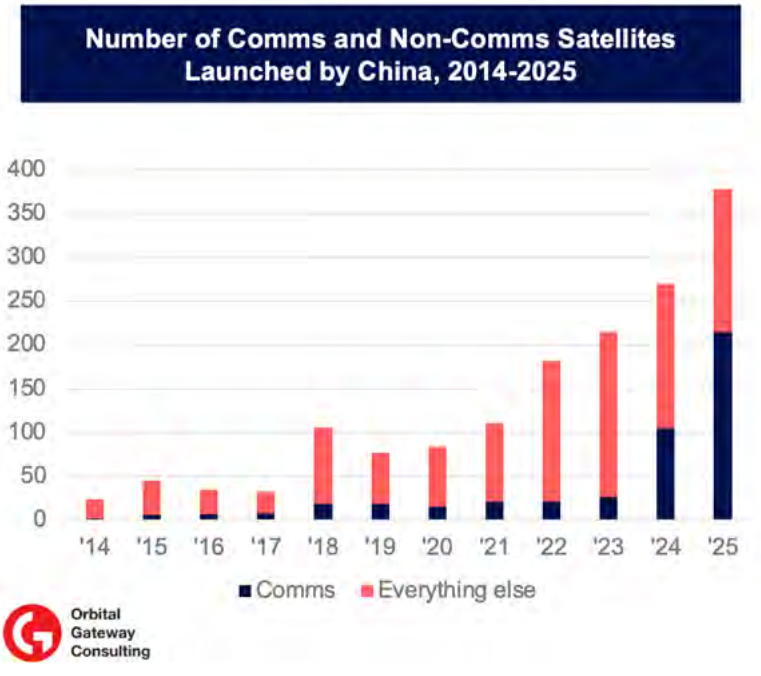
by Blaine Curcio

It's been a wild year in China's satellite communications (satcom) market. The country has seen rapid growth in the number of comms satellites launched, a host of regulatory developments in the Direct-to-Device (D2D) and Non-Terrestrial Network (NTN) space, and jockeying for position among two major Non-Geostationary Orbit (NGSO) projects. The three main themes of 2025 have been the ascendance of China SatNet, question marks surrounding SpaceSail, and Geostationary Orbit (GEO) being used for all sorts of creative things. For a whole lot more information on China's NGSO constellations, get in touch about the China NGSO Constellations Report, published by Orbital Gateway Consulting in December 2025.

The Numbers in 2025: Record Launches Driven by Constellations

2025 saw China launch an all-time high number of comms satellites at 215, exceeding the number launched in 2024 (105), as well as the total over the past six years (207 combined in 2019-2024).

192 of the 215 comms satellites were launched for SatNet and Thousand Sails, China's two large NGSO comms constellations, with the remainder being Comms Technology Test (TJS) satellites, IoT satellites from Guodian Gaoke, a couple of Tiantongs, and a few from China Satcom.



The record number of comms satellites put into orbit was enabled by two main factors:

1) Ramping up of several constellation-oriented rockets, namely the Long March-6A and Long March-8A, which throughout 14 combined launches in 2025 sent 133 SatNet and Thousand Sails satellites into orbit.

2) Awakening of China SatNet, a state-backed constellation that had largely failed to pick up momentum in its first ~3.5 years of existence

This marks a sharp change compared to 2024, when China's other major constellation, Thousand Sails (aka G60) took the industry by storm, raising ~US$1B in January 2024 and launching batches of 18 satellites in August, October, and December (plus another 18 each in January and March 2025). 2025 saw only one other Thousand Sails launch after March, compared to a whopping 16 launches for China SatNet.

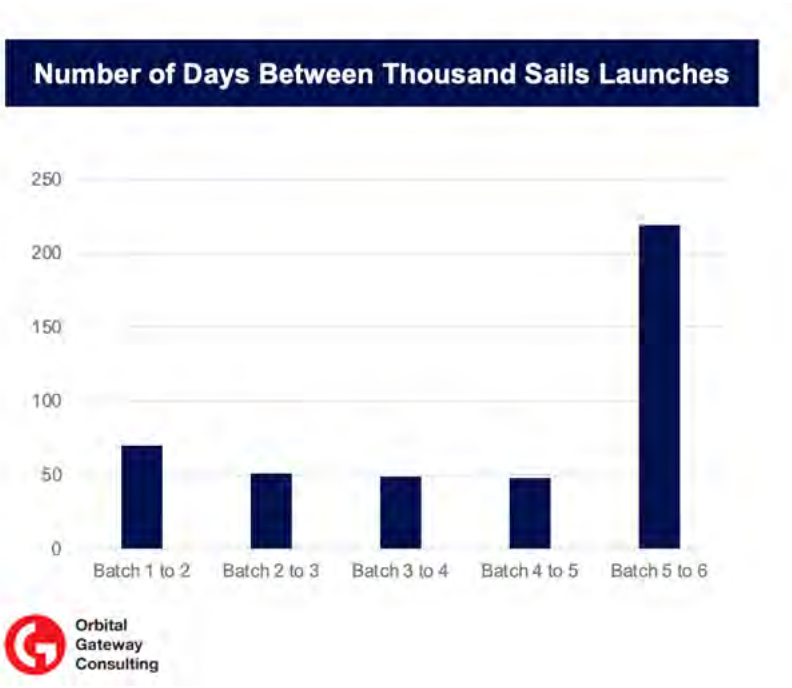
China SatNet's Big Year in 2025

China SatNet was the big story in the Chinese satcom market in 2025. Established in April 2021 as an State-owned Enterprise (SOE) directly owned by the Central Government, SatNet launched only 16 satellites up to November 2024, all of which were test satellites.

In November 2024, the company launched its first

batch of (10) satellites to great fanfare, and in 2025 the company really started to get moving, with 16 batch launches of 126 satellites during the year, including a strong finish of 4 launches in December. This rapid acceleration seems to have come about due to a change in company leadership.

China SatNet's "first generation" of executives led the company from its founding in April 2021 until early 2025, and all came from state-owned aerospace and defense companies. With an average age in their early 60s, this team appeared to be risk-averse. Coming from aerospace and defense, they were likely unfamiliar with the idea of investing massive CAPEX into infrastructure without iron-clad customer agreements. If you're the leading state-owned launch or military electronics company in China, you surely have CAPEX, but you can also be sure that eventually, you will be given contracts that will justify that CAPEX.



But building out a NGSO comms constellation is a much more uncertain proposition that more closely resembles a telco business model than a monopolist launcher one. As a result, SatNet's first generation of leaders seemed to suffer from analysis paralysis for the first several years of the project, exhibit A being the above-mentioned 16 satellites launched between April 2021 and November 2024.

And so, in early 2025, the State-Owned Assets Supervision and Administration Commission (SASAC, the owner of SatNet) installed a new leadership team. And lo and behold, the new leadership came largely from 1) the telco world, and 2) the state-owned enterprise administration world. In February 2025, former President and COO of China Telecom Liang Baojun was appointed General Manager of SatNet, and in June 2025 a new Chairman Gou Ping, a former SASAC administrator, was brought in.

This new leadership has taken a much more proactive approach towards launching satellites, with one Chinese space industry analyst noting that the new team "changed their previous "caution" and put "maintaining frequency and occupying orbit at the forefront of their focus", and almost immediately, the launches began coming fast and furious, with SatNet launching in April, June, and July before launching 5 batches in August.

The rapid launch cadence by SatNet in 2025 is made even more impressive by the apparent size and complexity of their satellites. While SatNet is very cryptic about things such as satellite mass, we can make estimates based on the maximum payload mass of the rockets they are using, and the number of satellites per rocket, which yield an estimated mass per satellite of around 1 ton. At the same time, certain SatNet suppliers are less tight-lipped than the company itself, so we know that most if not all SatNet satellites launched in late 2024 and 2025 are equipped with laser communications payloads, sourced from several different suppliers.

In short, over the course of 2025, SatNet has launched 126 batch satellites (plus a handful of test satellites), which has been a major boost to the constellation. All these launches have had a knock-on effect, however: they've used up all the constellation-oriented rockets in China,

ATX ENTERPRISE
PRESENTS

SATELLITE ASIA

20 - 22 MAY 2026
SINGAPORE EXPO

Asia's largest SatCom stage returns as an anchor event of Asia Tech x Singapore 2026. SatelliteAsia convenes satellite operators, solution providers, government stakeholders, and enterprise users to examine the evolving role of satellite technologies across the region.

This year's conference brings together industry perspectives on integration, scale, and adoption, alongside the commercial, regulatory, and operational considerations shaping the sector. As satellite infrastructure becomes increasingly central to regional connectivity, conversations will also address long-term resilience, security, and responsible growth.

Secure Your Pass

Satellite Markets and Research members enjoy 25% off the Premium All Access Pass.

Use promo code
M P _ S M R 2 5
at checkout.

Key Themes

- Satellite Communications
- Space & Next-Gen Connectivity
- Scaling Infrastructure
- Securing Space & Sustainability

Past Sponsors & Exhibitors

EUTELSAT · KACIFIC the heart of broadband · SES · SKY Perfect JSAT Holdings Inc. · speedcast · ST Engineering

Apply to Sponsor/Exhibit

SpaceSail Overseas Partnerships as of December 2025

Date of Agreement	Summary of Agreement
November 2024	**Brazil**: MoU with Telebrás for services in Brazil to begin in 2026, signed during visit of President Xi Jinping
January 2025	**Kazakhstan**: SpaceSail registered local subsidiary in January 2025, in August they announced testing had already begun with speeds of up to 200 Mbps
February 2025	**Malaysia**: partnership with Measat for LEO broadband services and emerging technologies such as D2D, IoT, EO
April 2025	**Thailand**: partnership with National Telecom (NT) to strengthen digital infrastructure through low-earth orbit network
October 2025	**Turkey**: Multi-orbit agreement with Turksat during Turksat visit to Beijing, agreement spanning mining, agriculture, IFC, and other verticals
November 2025	**Airbus**: SpaceSail signed an MoU with Airbus for IFC services using the Thousand Sails constellation
Unknown dates	Chinese media has reported that SpaceSail is already conducting tests in **Mongolia**, and that they have registered a firm in **Pakistan**

Source: Orbital Gateway Consulting

which has caused the country's other NGSO constellation project, Thousand Sails, to be stranded upstream without a paddle (or a rocket).

Struggling to Set Sail, but Favorable Gusts Starting to Appear?

While 2025 has been smooth sailing for SatNet, its NGSO constellation rival, Thousand Sails, has been struggling. 2024 was a big year for Thousand Sails and constellation operator SpaceSail, with several batch launches, but as the year closed out, cracks were starting to appear in the façade. Orbital parameters for the first batches of satellites looked shaky: around 15 of their first 54 satellites were not ascending to their target orbit properly due to thruster issues.

After a successful first quarter of 2025 that included launching 36 more satellites, SpaceSail has started to sputter, with time between launches rocketing up after their 5th launch. This has come largely from lack of rockets, evidenced by SpaceSail having issued several tenders during 2025 for launch services, only to cancel the tenders after they did not receive enough bids.

At the same time, SpaceSail has struggled all year with fundraising. The company raised around US$1 Billion in early 2024, putting that money to good use with a lot of launches. In late 2024, Chinese media began reporting an ongoing top-up funding round, but the big press release never came. In late 2025, an unusual press release from the Shanghai Media Group (a state-owned media company) revealed that SpaceSail was in the process of a ¥5-6 Billion funding round (US$715-850 Million), but that the funding round had not yet been completed. If SpaceSail had been getting strong interest from investors, probably such a press release would not have been necessary.

Despite these operational challenges, SpaceSail did make some meaningful commercial progress in 2025. As of the end of the year, SpaceSail has international presence in at least 7 countries, plus a very intriguing MoU with Airbus to integrate Thousand Sails with Airbus's HBCPlus IFC offering, likely in Mainland China.

In short, SpaceSail has had a 2025 full of ups and

downs. The rise of SatNet as a competitor has complicated the launch situation, while also probably causing some investors to pause before writing checks to a constellation that lacks the full state backing of SatNet. At the same time, SpaceSail has continued its march overseas, cementing its reputation as the "international Chinese NGSO comms constellation" compared to SatNet's more domestic focus. The launch in October 2025 was a good sign, and in the very last week of the year, SpaceSail got a Christmas present of sorts when its funding round that never ends finally closed, albeit for an unspecified amount and without a press release attached to it.

Let's Not Forget GEO

China's GEO market is beginning to diversify beyond the state-owned China Satcom. 2025 saw several GEO relay projects gain momentum, with relay being seen as a way to get around the challenges faced by Chinese companies in setting up overseas ground stations. Cangyu Space began construction of their first GEO relay satellite, contracting with CGWIC in a deal that gives them a certain level of legitimacy (typically CGWIC does not sign contracts with fly-by-night operations).

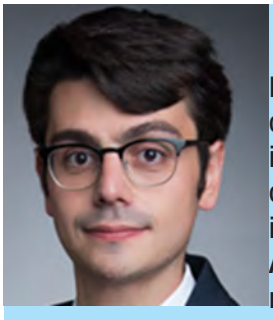
AstralNine hired a new management team amidst a revamp, while Interstellar Data Chain and the amusingly-named "Shifang Starlink" are earlier-stage. All 4 of these companies are aiming at similar markets: connecting satellites in LEO or MEO to the ground via GEO relay satellites.

In the more traditional GEO comms space, ChinaSat launched 3 fairly vanilla satellites in ChinaSat-10R (replacement for ChinaSat-10), ChinaSat-3B, and ChinaSat-9C, while ramping up for the launch of the ChinaSat-27 HTS in 2026. Overall, however, China Satcom is likely in an uncertain spot: they have no stake in China's LEO ambitions that are going to disrupt their market, and as an SOE, their toolbox to do innovative, risky things like buying small GEOs is limited. Time will tell, but without a VHTS (or several) in the medium-term, China Satcom may find themselves becoming less and less relevant into the late 2020s and 2030s.

"...watch out: we may see a Chinese NGSO constellation coming to a market near you sooner rather than later..."

Looking Forward to 2026

The coming year is likely to see more NGSO comms satellites launched from China, particularly if the country's launch bottleneck starts to ease. The year will be make-or-break for SpaceSail, with the company's credibility among its various foreign partners likely starting to wane as the launch pad remains silent. As SatNet's on-orbit infrastructure continues to mature, 2026 will be a year of finding more commercial partners to actually use their constellation. And for the rest of the world, watch out: we may see a Chinese



Blaine Curcio is the Founder of Orbital Gateway Consulting. He's an expert on the commercial space and satellite industries with a focus on the **Asia-Pacific region. He can be** reached at:
blaine@orbitalgatewayconsulting.com

SATEXPO

2-4 JUNE 2026

DUBAI EXHIBITION CENTRE, **EXPO CITY**

THE BENCHMARK FOR SATCOM AND SPACE TECHNOLOGY

8,000+	150+	70+	80+	50%
VISITORS	SATELLITE, SPACE & CONNECTIVITY EVXHIBITORS	COUNTRIES	EXPERT SPEAKERS	OF ATTENDEES ARE GOVERNMENT, MILITARY & ENTERPRISE BUYING ENTITIES

Scan the QR Code to
GET INVOLVED

SATEXPOME.COM
#SATEXPO

CO-LOCATED WITH
CABSAT

ORGANISED BY
مركز دبي التجاري العالمي
DUBAI WORLD TRADE CENTRE

The Masters of the Spectrum: How INTEGRASYS LEOREG Ensures Order in the Era of Aggressive Expansion

The Telco industry recently received a US$ 17 billion wake-up call. SpaceX's massive acquisition of EchoStar's spectrum licenses signals a definitive end to the "polite" pilot phase of New Space. It marks the beginning of an era of aggressive, proprietary expansion, where the race for Direct-to-Device (D2D) connectivity is paramount. The strategy in this new D2D race is to own 100% of the assets, including the radio spectrum itself.

As billionaires move to congest our skies, a critical question arises: Who ensures this new gold rush doesn't turn low Earth orbit into a chaotic, unusable "Wild West"?

Integrasys CEO Alvaro Sanchez warns that a "Wild West" approach to spectrum could lead to "friendly fire," where high-power LEO satellites inadvertently jam critical defense links or degrade the service of compliant GEO operators.

The Threat of Spectrum Asymmetry

INTEGRASYS CEO Alvaro Sanchez has been vocal about the dangers of this rapidly evolving reality. In a recent column, he warned that the "satellite-to-mobile revolution" is transforming the rules of the game silently. He highlights a dangerous "asymmetry" in the market: while traditional operators work within collaborative frameworks, newcomers like Starlink often operate outside of bodies like the GSMA or 3GPP, effectively bypassing the technical consensus that has guaranteed ecosystem stability for decades, now affecting Telcos around the world.

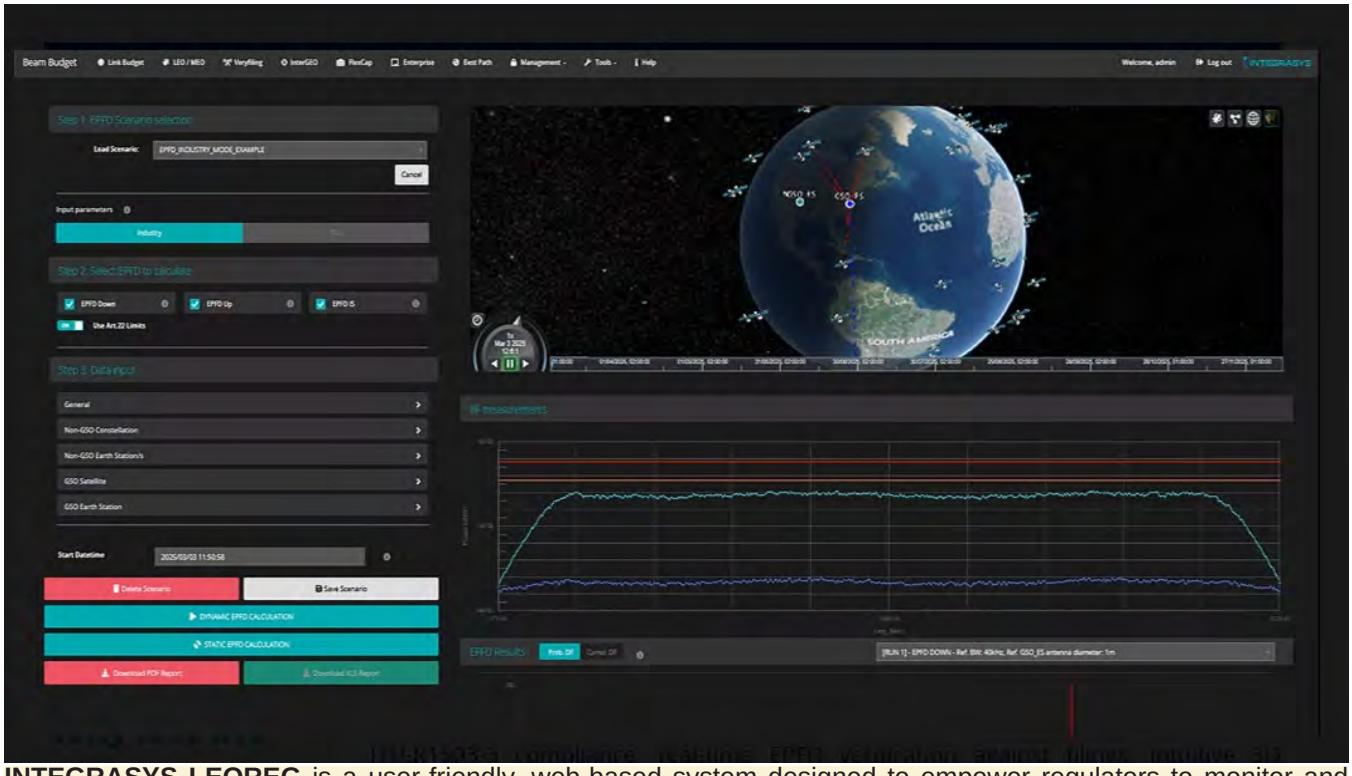
Sanchez argues that this lack of accountability creates a deep imbalance. When mega-constellations "shout louder", increasing power to reach handheld devices, without subjecting themselves to the same rigorous standardization as terrestrial networks, they risk altering the competitive and spectral equilibrium, effectively creating a monopoly.

Sanchez' current focus is on growing INTEGRASYS; developing new products, forging alliances with other defense and commercial organizations if appropriate, and partnering with Ministries of Defense (MoDs) and Departments of Defense (DoDs).

The Risk of "Friendly Fire"

As Sanchez noted during the CABSAT and IBC conferences, the push for D2D connectivity increases the risk of violating foundational International Telecommunicarions Union (ITU) Articles 21 and 22, which govern power flux density limits, and disrupting current satellite providers, a situation that national regulatory bodies must urgently address.

If unchecked, this "Wild West" approach could lead to "friendly fire," where high-power LEO satellites inadvertently jam critical defense links or degrade the service of compliant GEO operators. Sanchez has emphasized that we cannot rely on "good faith" declarations from operators; nations need a way to strictly enforce these limits in real-time.



INTEGRASYS LEOREG is a user-friendly, web-based system designed to empower regulators to monitor and ensure Non-Geostationary Satellite Orbit (NGSO) constellation compliance with International Telecommunication Union (ITU) EPFD (Equivalent Power Flux Density) regulations after launch. It provides comprehensive real-time EPFD verification, improves spectrum efficiency, and minimizes interference.

Enter LEOREG: The Great Equalizer

In an environment defined by multi-billion dollar acquisitions and exponential fleet growth, manual regulation is obsolete. To survive, the industry needs an equalizer. This is why INTEGRASYS developed LEOREG for national regulators.

Designed to be the definitive tool for mastering the spectrum, LEOREG addresses these challenges through automation. It provides the "Compliance Simplified, Regulation Automated" capability that Sanchez advocates for.

- Automated ITU Compliance: It replaces static spreadsheets with dynamic analysis, verifying that constellations meet EPFD limits (Articles 21 & 22) before and during operation.
- Leveling the Playing Field: It counters the "asymmetry" Sanchez warns against, giving smaller nations and operators the power to monitor and regulate massive foreign constellations effectively, ensuring national sovereignty over their spectrum and their country, as they will soon compete with their Telcos.

Securing the Future of the Spectrum

The era of aggressive expansion is undeniable. However, the fundamental physics of RF interference have not changed. If the industry wants to realize the promise of the NTN revolution—connecting any device, anywhere, at any time—it cannot rely on a single flavour, creating a monopoly.

As Alvaro Sanchez states, "we need strict, automated regulation to compete in this Telco aerospace race. With LEOREG, INTEGRASYS is providing the essential infrastructure for this new era, ensuring that while the space race accelerates, it remains compliant, manageable, and secure."

INTEGRASYS

Building success from innovation

THE MASTER OF THE SPECTRUM

Enabling the NTN Revolution
& Ensuring Spectrum Superiority.

ENABLING THE NTN REVOLUTION
Any Orbit. Any Device. Any Signal.

SPECTRUM SUPERIORITY FOR DEFENSE
Protecting Critical Links for Europe & NATO.

MULTI-ORBIT ORCHESTRATION
Compliance Simplified. Regulation Automated.
Capacity Maximized.

VISIT US AT

MWC GSMA | BARCELONA 2 – 5 MARCH 2026

BOOTH 6C31

MISSION MICROWAVE

THE SHAPE OF SOLID STATE™

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

MADE FOR A MISSION®

Serving the Software-Defined Satellite Market of the Future

by Jason Bates

Traditionally, the mission profile and business model for satellites was determined by the operators and customers before the manufacturing process began. This approach was successful for decades, but the transformation of the communications sector requires the satellite world to evolve as well. Going forward, the flexibility of software-defined satellites (SDS) promises to transform how satellite operators design, deploy and manage space segment.

This next-generation technology leverages advanced software to control and manage service capabilities and satellite operations. These highly configurable and reprogrammable platforms will allow satellite operators to modify platform functionality and performance in orbit and provide the capability to react to shifting customer requirements.

Next-generation ground segment platforms and technology will play a critical role in enabling the capabilities of the SDS platforms and help satelltie operators unlock new business opportunities. By leveraging virtualization, automation and even artificial intelligence, the next generation of ground platforms will help SDS operators and customers perform more efficient mission planning, scale up services more quickly and reduce operational costs.

Industry analysts are optimistic about the growth of SDS platforms, with some predicting that by 2040, nearly every satellite launched will be an SDS platform due to manufacturing costs coming down and customers demanding to use the platforms once they have demonstrated their advanced capabilities and market impact.

Service providers and technology providers are readying the delivery ecosystem to serve this market. This includes efforts to help customers solve operational challenges through improved tools and solutions that validate satellite and service performance and support troubleshooting. Executives emphasize enhancement of existing toolsets and the need to provide integrated systems that address customer issues across the ecosystem rather than through isolated, customer-specific tools.

This transition to SDS platforms will also require operators to provide every service the customer needs. This includes a hub to transform megahertz into megabits per second and vice versa and an infrastructure capable of interfacing with multiple satellite systems. They will also need to offer complementary tools that support the entire value chain, such as web interfaces that allow visibility into vital network information; terminal activation services and lifecycle management; ticketing systems to address technical issues; and an integrated billing system.

In the traditional satellite business model, this full suite of services often was only required by the largest operators and service providers, and

AVCOM
Of Virginia Inc.

Following the Signal

Spectrum Analyzers Beacon Receivers RF Monitoring

7729 Pocoshock Way
North Chesterfield, Virginia
23235 USA

Phone: +1 (407) 574-2450
Email: salesrfq@.avcomofva.com
www.avcomofva.com

Visit us now

these were often developed internally. In the future, this level of operations will be needed by companies of all sizes that want to succeed in the SDS environment.

The Advantages SDS Provides

The most significant advantage of SDS for operators lies in the service flexibility it provides. Historically, satellite operators had to decide on key design features – beam coverage, beam shape and foot print – long before launch and with little to no room for adjustments in orbit. With SDS, those constraints are eliminated. Operators can reconfigure beam sizes, activate or deactivate beams, and shift coverage areas dynamically in response to changing demand. This adaptability represents a major step forward in maximizing satellite efficiency and aligning resources in real time with customer requirements.

More Customization and Flexibility: SDS provides flexibility and agility, enabling on-demand service customization and improved responsiveness to customer needs. The ability to dynamically move satellite beams enhances customer outcomes and optimizes the use of individual platforms and satellite constellations.

The options will be different based on the satellite customer, from global geostationary operators to regional operators to LEO operators, as well as the needs of the end users, from commercial users – where there are already strong uses cases that highlight how footprints and bandwidth utilization may evolve – to national and state defense customers.

"...Next-generation ground segment platforms and technology will play a critical role in enabling the capabilities of the SDS platforms and help satellite operators unlock new business opportunities..."

Scaling Services More Easily: SDS platforms also enable service providers to scale up or down seamlessly to meet the needs of various applications and users, from communications to Earth observation. With SDS, operators can efficiently allocate resources and optimize their satellite constellations to deliver the desired performance and coverage.

A Delayed Launch, but a Promising Future

While companies are eager to test and launch services using the SDS platforms, the manufacturing delays of the SDS geostationary platforms are giving everyone a chance to learn more about SDS potential, SDS operations and discuss payloads and demonstrations and proof of concepts.

This gives the technology providers more opportunities to emphasize the importance of open standards along the entire value chain, and most seem receptive to the argument. "You have time to try a lot of technology, but they want the flexibility to choose the technology and how the waveform goes over satellite. They don't want to be locked in one solution or another. They don't have to change hub system with every new satellite. You can't throw 1,000 terminals away when new technology is adopted," the executive said.

As the satellite sector introduces, refines and embraces the potential of SDS, it will launch an era of innovation. From enabling large satellite constellations to supporting 5G networks, SDS will play a critical role in shaping the future of satellite technology and unlocking new opportunities for businesses, governments, and individuals worldwide.

Jason Bates is editor for the **World Teleport Association** which conducts research into the teleport and satellite industry, provides a unified voice for teleport operators and offers Teleport Certification programs to service providers. "Serving the Software-Defined Satellite Market of the Future" is available for free to members and for sale to non-members from WTA's online store: www.worldteleport.org/store/

PRODUCT SPOTLIGHT

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

ADVERTISERS' INDEX

VITAL STATS