

MARKET Briefs

Executive Summaries of Market Trends and Opportunities in Key Market Segments and Regions Worldwide



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Trends in the Military Satellite Market

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by Elisabeth Tweedie

The satellite market is one that constantly continues to change and evolve as new technologies emerge, price points change, new markets open up and new alliances are struck. However, there is another independent variable that at times, and this is one of those times, can have a dramatic effect on the overall market; and that is geopolitical tensions.

Space is an increasingly important element in global defense and security. There are three key factors driving this growth.

- Firstly, space itself is becoming a potential war zone as the technology exists, not only to closely monitor other satellites, but also to destroy them.
- Secondly, ground operations are progressively becoming more reliant on information delivered from space. This could be ground surveillance information, relayed from earth observation (EO) satellites and drones, or communications originating elsewhere in the theater of war; and
- Thirdly, nationalism is coming to the fore. Many countries now want to have their own independent space assets, particularly when it comes to national defense.

Military Space and Ground Systems play a critical role in modern defense, ensuring secure, resilient,

and real-time connectivity across all domains—land, sea, air, space, and cyberspace. These systems support a wide range of military applications, improving command capabilities, intelligence gathering, and battlefield coordination.

Key Applications of Military Satellite Systems include:

- Command and Control (C2) - Enables continuous, secure communication, allowing commanders to direct operations and receive intelligence anywhere.
- Early Warning & Missile Defense Supports missile detection, tracking, and early alerts, enhancing defense response strategies.
- Intelligence, Surveillance & Reconnaissance (ISR) – Ensures real-time data transmission from reconnaissance satellites to ground command centers for threat analysis and decision-making.
- Secure & Resilient Communications – Provides encrypted, jam-resistant networks, with systems like AEHF satellites ensuring functionality in nuclear or electronic warfare scenarios.
- Global Force Connectivity – Links deployed forces, fleets, aircraft, and remote bases, enabling seamless joint and coalition operations.
- Resilience Against Threats – De-

signed to withstand cyberattacks, jamming, and anti-satellite (ASAT) threats, ensuring mission continuity.

- Space-Based PNT (Positioning, Navigation & Timing) – Supports accurate signal distribution for navigation and precision-guided munitions.

Taking all these factors into account, it is hardly surprising that in its first Space Defense and Security report, Novaspace (a merger between Euroconsult and SpaceTec Partners) is forecasting that the global launch rate for defense and dual use (defense and commercial) satellites will grow by 160% in the ten years to 2034. A record 107 defense and dual use satellites, were launched in 2023, a massive 40% increase from the previous year. Well over one-third of these (44) were US satellites.

In the same report, it estimated that in 2023 worldwide government expenditures in space defense and security reached a record US\$58.4 billion. As would be expected, the bulk of this expenditure US\$38.9 billion) came from the US, followed by China (US\$8.8 billion), Russia (US\$2.6 billion) and France (US\$1.3 billion). Three other countries, the UK, Germany and Japan and the European Union funneled over US\$500 million each into defense and security.

Globally, US\$40.2 billion of the US\$58.4 billion was contracted to industry to supply four key segments of the value chain. These are: manu-

Krasimir Terziev and Bobby Kirchev Orbital Connect

Krasimir Terziev and Bobby Kirchev, both highly experienced telecommunications and satellite professionals, are Co-Founders of Orbital Connect. They are instrumentally involved in the company's executive team. Krasimir is Director of Business Development while Bobby is Director of Sales. In a relatively short time, they built the company into one of the leading channel partners and authorized distributor of global leading hardware manufacturers. Satellite Executive Briefing Editor-in-Chief Virgil Labrador caught up with Krasimir and Bobby at their company's Los Angeles, California head office and discussed their company's capabilities in the government and military markets. Excerpts of the interview with Krasimir and Bobby follows:

Please give us a brief overview of your product and service offerings for the Government and Military markets ?

Krasimir Terziev: At Orbital Connect, we work closely with over 40 leading manufacturers in the satellite, broadcasting, and telecom industries, managing a portfolio of more than 5,000 products.

We serve the government and defense markets mostly by participating in the government tenders looking to offer high-performance, mission-critical equipment and solutions, ensuring full compliance with military-grade security and operational standards. Through our work with procurement teams and prime contractors, we've seen firsthand that security and reliability are among the top priorities.

Beyond commercial products, we offer integrated advanced IT security protocols designed for government and defense needs. These include AES-256 encryption (the industry standard for military data protection), FIPS 140 compliance (safeguarding against both cyber and physical threats), TRANSEC (ensuring secure, anti-jamming communications), dynamic spectrum access (automatically adjusting frequencies to avoid interference), and STANAG standards (providing NATO-compliant secure data exchange). These technol-



Bobby Kirchev and Krasimir Terziev

ogies are fundamental for secure data, voice, and video transmission in military operations.

I would like also to emphasize below our offerings targeted for specific defense applications, including ground warfare, naval fleets, airborne vehicles, and mobility missions. These are:

- Satellite Communications Equipment – LEO, MEO, and GEO terminals for fixed and on-the-move applications, including maritime, manpack/flyaway terminals, and earth stations.
- Baseband Equipment – Modulators, demodulators, frequency converters, RF-over-fiber solutions, network management systems, antenna control units, signal monitoring tools, VSAT hubs, and redundancy systems.
- Broadcasting Solutions – Video contribution and distribution systems, RF matrices, encoders/decoders, and content management systems.
- Network Infrastructure – Satellite modems, routers, firewalls, switches, controllers, access points, and SD-WAN edge devices for secure and optimized connectivity.
- RF Components – Block-up/down converters, high-power and low-noise amplifiers, rejection and band-pass filters, waveguides, RF switches, bias tees, splitters, diplexers, combiners, cables, and accessories.

Additionally, to hardware, connectivity is at the heart of military operations. To participate on the Government and Defense market we provide reliable satellite, 4G, and 5G connectivity solutions as well as professional tele-port services, including uplink, downlink, hosting, and global IP delivery. Our partnerships with major industry players, like Speedcast for example, enable us to provide a comprehensive range of GEO and Non-GEO satellite solutions such as Starlink and OneWeb, and VSAT mobility, and fixed connectivity services.

SATCOM industry is evolving rapidly, with new technologies such as hybrid networks, software-defined solutions, and cloud-based architectures which are already coming into the Government and Defense Sector as well.

You basically represent other companies and integrate solutions for your clients, what value do you add to your existing partners' products when you come up with a solution for your customers?

Bobby Kirchev: In my experience, government customers who reach out for satellite equipment usually want to use it as part of a larger, innovative framework—whether for research, testing, or specialized applications. Fewer customers come to us just looking for standalone components to replace or replicate existing systems. Because of this, our engineering team often faces the chal-

“...We see real value for our customers in working with a single, reliable partner who remains engaged throughout the entire sales cycle, resolving technical and operational challenges at every stage of the project, ultimately saving time and resources...”

lenge of suggesting interoperable equipment that works smoothly as a coherent telecommunications system.

We also offer additional services such as RF products customization, remote monitoring and support, RF testing, after-sales maintenance and the development of specific engineering and technical solutions where needed.

We see real value for our customers in working with a single, reliable partner who remains engaged throughout the entire sales cycle, resolving technical and operational challenges at every stage of the project, ultimately saving time and resources. We collaborate with renowned vendors whose defense-sector products are designed for exceptional performance in harsh conditions. At Orbital Connect, we maintain long-standing technical relationships with their engineering teams, relying on their deep expertise in government and military applications to integrate solutions, provide technical support, and maximize overall value for our customers.

Can you give us an example of a solution that you have provided to one of your government/military clients?

Krasimir: I am glad to share as much as I can about a recent project of ours where we replaced the maritime antenna system on a military naval vessel. This included the removal of the old system and the delivery, installation, and commissioning of a new Cobham Sea Tel antenna, along with all necessary RF products, wiring, and accessories. The project was about integrating military-grade RF equipment and a range of networking devices, including antennas, mounts, modems, routers, decoders, multi-switches, amplifiers, splitters, and cables. Our team was responsible for removing and replacing the cabling, as well as handling the proper disposal of the old equipment and materials. Since the installation took place onboard, we coordinated with a third-party provider while ensuring compliance with all military regulations. Our team proactively ensured all technical requirements

were met, overseeing each stage to guarantee precision. Given the strict timeline and the defense customer's specific instructions, we worked efficiently to complete the system integration on schedule.

The final stage was testing, calibration, and verification of the system's performance. Throughout the project, we maintained an open and effective line of communication with the procurement team, which I consider essential for the successful completion of a project like this one.

Going forward how do you see the government/military market shaping up and how will your company leverage your offerings and capabilities to serve this market?

Bobby: One of the major shifts we're witnessing nowadays is the integration of multi-orbit satellite networks with 4G/5G mobile technologies. It means greater redundancy, flexibility, and operational resilience, particularly in unpredictable environments. We're also on the rise of IoT over satellite and AI-driven analytics, which are transforming the way military units collect and process data for real-time decision-making. However, security and network availability remain the top priorities—without secure, uninterrupted connectivity, no mission can succeed.

Here at Orbital Connect, we're focused on high-performance, scalable, and cyber-resilient SATCOM solutions that meet the needs of military operations. Among these solutions I can point out:

- Scalable VSAT hubs for multi-network configurations.
- High-performance satellite modems, remote terminals, and RF electronics for secure, real-time communication.
- Telecom hardware that supports multiple network topologies, including SCPC (Single Channel Per Carrier), Mesh, Star/Adaptive TDMA.
- Virtualized Networks that enable a cloud-based network orchestration and software defined-communication

When we talk about the growing cybersecurity concerns, implementing a multi-layered security approach, ensuring protection against cyber threats, jamming, and interception should be the way to go. Our solutions incorporate DVB-S2 and DVB-S2X waveforms, advanced modulation, and carrier-in-carrier technology, allowing

“...We will continue to expand our network of key partnerships to provide advanced satellite solutions and align our strategies with the changing dynamics of the satellite industry. We will remain committed to serving as the sole and reliable distributor of satellite connectivity services...”

military forces to maximize bandwidth efficiency and reduce costs while maintaining secure and resilient operations.

Anything else you would like to add?

Krasimir: With the growing number of satellites, especially in LEO, Orbital Connect is strategically expanding its service offerings. We are building new partnerships with companies specializing in Space Segment manufacturing within the SATCOM industry, as well as those advancing laser communication technology. Our focus includes transceivers, software-defined radios, RF power amplifiers, and optical communication modules, all of which play a crucial role in next-generation satellite connectivity.

Looking ahead, we remain committed to broadening our product and service portfolio while keeping pace with emerging satellite technologies. As military and government operations evolve, so do their communication needs. Our goal is straightforward: to deliver secure, high-performance, and cost-effective satellite solutions that enable Government and Defense to operate with confidence and efficiency.



Watch a video interview with Krasimir Terziev at the SpaceTechExpo Europe in Bremen, Germany:
www.satellitemarkets.com/
krasimir-terziev-orbitalconnect

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The DoD is continuously evaluating these categories, with the objective of integrating commercial advancements where possible, with the aim to enhance the resilience, agility and effectiveness of national security space operations.

Last May, in a testimony before the Senate Armed Services subcommittee, John D. Hill Deputy Assistant Secretary of Defense for Space and Missile Defense outlined the key investment areas relating to space in the DoD's budget request for 2025. Included US\$33.7 billion for space programs were US\$2.4 billion for launch capabilities, US\$1.5 billion for more resilient PNT, US\$4.2 billion for more protected satellite communications, US\$4.7 billion to develop new missile warning and tracking architectures and US\$12.3 billion for other capabilities aimed at increasing the resiliency of existing DoD space architectures.

The highlights of last year's DoD's Commercial Space Integration Strategy were also presented during the same session. Four priorities have been identified to achieve this integration.

1. Outlining DoD's requirements to in contracts and other agreements to ensure that commercial solutions are available when needed.

2. The integration of commercial solutions into defense architecture during peace time, including planning, training and routine operations to ensure warfighters can seamlessly utilize these solutions during crises or conflict.

3. Protecting and defending against threats to U.S. national security space assets (in space or on the ground) and commercial space capabilities where



Military satellite equipment must meet Size, Weight and Power (SWAP) specifications as well as ease of use and portability in the battlefield.

Photo courtesy of the US Marine Corp System Command

appropriate.

4. DOD to use its full range of financial, contractual and policy tools to support the development of new, commercial space solutions that have the potential to support the joint force.

Also at the presentation was General Michael A. Guetlein, Vice-Chief of Space Operations for the Space Force, he commented: "Space has never been more critical to the security of our nation, and the success or failure of the joint forces depends heavily upon the capabilities that we present."

The new administration has recently ordered the DOD to cut its 2026 total budget request by approximately \$50 billion, so that the money can be allocated to "new priorities." At this point it is not clear where those cuts will come from, but what is clear is that the "Iron Dome for

America" intended to shield the US from hypersonic and ballistic missile attacks, is excluded from the cuts. This program relies heavily on space assets. So it would appear reasonable to assume that space will continue to be a major priority for defense.

Key Requirements

Given the increasing emphasis on the use of commercial partners for the DoD, and other defense departments, it's worthwhile to considering some of the key features and services that are, and will be needed. As regional and global geo-political tensions increase, military operations are becoming increasingly complex, encompassing dispersed communications, multi-orbit, multi-frequency networks, enhanced cybersecurity protocols as well as standardized equipment to support mission-critical operations and mitigate interception, jamming and interference, whether intentional

Orbital Connect Products for Military Applications

Through strategic partnerships with industry leaders such as Speedcast, Globalstar, Kratos, ST Engineering iDirect, Norsat, Cobham, Intellian, Comtech, Terrasat, MediaKind, C-Com, Kymeta, Sat-Lite, Cisco, Peplink, RF Design, Satcube, ETL Systems, and Novelsat, among others. Orbital Connect delivers highly reliable, end-to-end satellite communications across a wide range of defense applications:

Naval operations. Providing multi-orbit, multi-frequency maritime SATCOM with integrated antennas, below-deck equipment, and network infrastructure to keep fleets connected. Featured products are:

1. Intellian X130D PM Dual-Band Auto-Switching Terminal
2. Intellian ARC-M4 Block 1 Simultaneous X/Ka Wideband VSAT System
3. Norsat MarineLink /1.0/1.5 m, X Band Maritime Antenna
4. Norsat MarineLink /1.0/1.5 m, Ka Band Maritime Antenna
5. Em Solutions King Cobra 2m class Naval Maritime Satcom Terminal
6. Em Solutions King Cobra 1M X/Ka Band
7. Terrasat IBUC series

Ground-based missions. Supplying customized, ruggedized and quick-deployable SATCOM terminals, RF feeds and electronics, interoperable modems and cyber-hardened switches to support battlefield and strategic command centers.

1. Sat-Lite 1038 Avion 1.0M Motorized Flyaway Antenna
2. Sat-Lite 13138 Portable X-Y Antenna
3. GetSat Milli SAT H LW Portable Satcom

- Terminal
4. Teledyne AXIOM Family
5. Comtech SLM- 5650 Transec Satellite Modem
6. Norsat WAYFARER 1.2m Ku-Band Auto Flyaway Antenna
7. Norsat WAYFARER 1.8m Ku-Band Auto Flyaway Antenna
8. Paradigm HORNET Flyaway Terminal 80cm X/Ku/Mil-Ka/Ka-Band Terminal
9. iDirect 9050 OM Satellite Router Enclosure
10. iDirect M300 Ku-Band Flat Panel Manpack
11. iDirect 9350 Satellite Modem
12. iDirect Starlight 1000 Manpack Terminal
13. K-Flip ESA Antenna
14. Intellian LP100 Rugged, Lightweight, Man Portable Terminal
15. Cobham EXPLORER 727 BGAN Terminal
16. Satcube Ku Secure

Vehicle and mobility solutions. Offering Kymeta electronically steered flat-panel antennas and ruggedized satellite solutions for on-the-move operations in demanding environments.

1. Global Konet Omega2 ESA Antenna
2. Kymeta Hawk u8
3. Kymeta Goshawk u8 (Coming soon)
4. Em Solutions Taipan 48 Land Terminal X and dual Ka swappable

Compliance: Orbital Connect is NIST compliant, meeting strict cybersecurity and data protection standards.

All Orbital Connect's partners' products are available at their easy to navigate online store at:

store.orbitalconnect.com



WWW.ORBITALCONNECT.COM

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- 5000+ items in our product list
- More than 40 global leading vendors
- Maritime, Land and On-the-Move satellite connectivity
- Product solutions for Teleports, Broadcasting, Telecommunication companies, Government & Defense and more



or not.

High service level agreements (SLAs) are a necessity, these can be achieved by creating networks composed of military and commercial satellites, in different orbits and using different frequencies. Obviously, the hardware must be ruggedized and designed to operate seamlessly in all environments: maritime, aeronautical and land (fixed and mobile). Equipment providers must also be able to respond quickly to requests and be capable of providing rapid installation wherever needed. Size, weight and power (SWAP) must also be taken into consideration when equipment will be used on the move (OTM) or on the pause (OTP).

Capacity is obviously a critical factor. Military customers may need to accurately transmit encrypted video, and tactical plans at short notice. Therefore, advanced quality of service settings, which can dynamically adjust traffic prioritization across multiple satellites, orbits and frequencies and terrestrial networks, are a necessity.

Accurate network sizing is needed to ensure maximum performance and efficiency. This includes the ability to rapidly upgrade, troubleshoot and maintain the network, as well as ensuring that non-technical military personnel are able to reconfigure the settings as and when needed.

One of the key trends in ground operations is virtualization: the transition of hubs and modems from hardware to software. This is even more important for military communications than it is for commercial operations. Being able to remotely perform software upgrades, that may add support for additional waveforms and security protocols, as and when needed is a major advantage. Ad-

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vanced modems already incorporate frequency-hopping, spread-spectrum and interference mitigation algorithms and advanced anti-jamming techniques along with intercept detection to enhance security. As updates and upgrades become available, being able to apply them remotely and immediately serves to enhance troop security.

Zero Trust Architecture (ZTA) and end-to-end encryption are both important for defense communications. ZTA verifies every network request before granting access. In addition military networks are utilizing Advanced Electronic Signature (AES) 256 encryption and Post Quantum Cryptography (PQC), to ensure secure data transmissions. Quantum Key Distribution is also being explored to enhance encryption resilience against future quantum computing threats.

The advent of low earth orbit (LEO) constellations, has been accompanied by significant improvements in antenna technology. Electronically steered phased array antennas, autonomous tracking systems and ruggedized deployable antennas are all now used in tactical operations. Flat panel electronically steered antennas (ESAs) are replacing parabolic antennas as they provide rapid beam forming and multi-beam connectivity, a key requirement to ensure network redundancy. AI-powered tracking systems enhance ground terminals' ability to auto-align with moving satellites, reducing downtime and increasing reliability and optimizing signal quality to compensate for atmospheric changes.

This accelerated growth, and increasing emphasis on commercial involvement in the defense and government marketplace, makes it a good time for key players to focus on these sectors. Orbital Connect is one of those players, already highly successful in the commercial satcom market the company is now turning its attention to government and defense and the US DoD in particular.

Orbital Connect

Orbital Connect is an authorized distributor and connectivity services provider, with a whole host of major clients, including: Aerospace Corporation, FMC Globalsat, Globecast Americas, Telspazio, Mitre Corporation, Raytheon, Northrup Grumman, and L3 Harris from the commercial sector. In the government and education sectors, it has an equally impressive client list, including: the US House of Representatives, the US Antarctic Program, the US Agency for Global Media, the United Nations, the University of San Diego and Ohio University.

It has a similarly impressive roster of over 40 vendors and partners in the satellite, broadcasting and telecom sectors that it works with. This enables Orbital Connect to choose from over 5,000 products when designing a system for its clients. Customers can therefore be confident that whatever solution is offered to them, it will be the most suitable for their particular situation and precisely tailored to their needs.

In the last year Orbital Connect

has made significant strides to expand its capabilities and offerings on the service side of the business. As an authorized Partner with iDirect, Orbital Connect has expended its resale agreement including Canada where it has addressed the contribution and distribution needs of broadcasters and Canadian government agencies, looking to supply them with the latest modulators and professional modems and hubs such as Evolution, Velocity, Dialog incorporating all standards including IP over satellite.

In 2024 the company also expanded its relationship with Speedcast and is now an authorized indirect reseller of Starlink and offers Maritime, and Land high speed connectivity. This agreement enables Orbital Connect to be able to offer services including uplink/downlink, teleport hosting, and turnaround services through their Teleport Facilities. Agreements with Verizon and AT&T mean that 4G and 5G services can also be supplied and integrated into satellite connectivity, as well as fixed terrestrial service. Essentially through this agreement, Orbital Connect is able to access and offer the full capabilities of Speedcast, including OneWeb service.

In addition, Orbital Connect has agreements with Intelsat, Inmarsat/Viasat, Worldlink Maritime Communications, IABG teleports and Globalstar. Other vendors and partners include: MediaKind, Norsat, Terrasat, Kymeta, Cobham, Intellian, Paradigm, Comtech, Novelsat, Sat-lite Technologies, Satcube, SatService, RF Design and many more.

Services and Defense

Having created relationships with

“...This accelerated growth, and increasing emphasis on commercial involvement in the defense and government marketplace, makes it a good time for key players to focus on these sectors...”

many of the A list industry players, Orbital Connect is now turning its attention to services and the defense market in particular.

It has taken a very structured approach to the defense market, working for over a year with experienced consultants in this area to ready itself to obtain GSA certification as an approved vendor. The company expects to receive this in the next few months. It has also created a separate specialist; experienced sales force for this sector. Working with the US government is very different to working with the commercial sector. This sales force is focusing on building good relationships with procurement officers to understand their needs and ensure that they understand the capabilities and experience of Orbital Connect. Naturally this sales force is also searching for suitable tenders and opportunities.

Orbital Connect has also expanded its product line to include a broad range of ruggedized terminals that comply with DoD standards and enable different customizations in specific customers' requirements

as well. It can also supply modems incorporating enhanced security including AES-256, FIPS-140 and TRANSEC.

To read more about Orbital Connect's capabilities and offerings for the defense market, see page 4 for the interview with Orbital Connect Co-Founders Krasimir Terziev and Bobby Kirchev and the Product Spotlight profile on page 8.



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