LTG Richard P. Formica

Commanding General

USASMDC/ARSTRAT

The Army's Space Provider

In this issue of the Army Space Journal, I will share a slightly edited version of my recent testimony to the Senate Armed Services Subcommittee on Strategic Forces in May. My purpose was to inform the Senate about the Army as a user of space capabilities; to summarize the Army's space strategy and policy; and to discuss the space capabilities provided by the Army. I think it's important for you to know what I testified to Congress on this important topic of Army Space.

The Army as a User of Space Capabilities

As America's principal land force, our Army must be organized, trained, and equipped to provide responsive and sustained combat operations in order to fight as a Joint team and to respond, as directed, to crises at home and abroad. Geopolitical uncertainties and nearly a decade of continuous combat have necessitated a high degree of operational adaptability. The Army's Operating Concept identifies six warfighting functional concepts that contribute to operational adaptability: mission command, movement and maneuver, intelligence, protection, fires, and sustainment. Space-based capabilities leveraged and employed across the Army Space enterprise enable each of these warfighting functions. Simply put, space-based capabilities are critical elements to the Army's ability to shoot, move, and communicate.

The Army is reliant on space-based systems, such as global positioning satellites, communication satellites, weather satellites, and intelligence collection platforms. They are critical enablers to our ability to plan, communicate, navigate, and maintain battlefield situational awareness, engage the enemy, provide missile warning, and protect and sustain our forces. Most of these services are so well integrated into weapon systems and support processes that Soldiers are unaware of the space connection. This seamless integration is due in large part to the coordination and cooperation of space professionals at the Air Force Space Command, USSTRATCOM's Joint Functional Component Command for Space, the Navy, the Army, and other DoD and Joint agencies.

The Army's unrelenting dependency on space-based capabilities requires active participation in defining space-related capability needs. The identified needs serve to ensure necessary Joint force structure, systems, and concept of operations (CONOPs) are developed and acquired, thereby enabling the land force to conduct the full range of military operations now and in the future.

Ensuring tactical and assured access to space is our focus—reassuring the requisite capabilities and effects are delivered to

... the Army has strengthened and broadened its investment to include exploitation of national and strategic space capabilities, defensive counterspace, leveraging the capabilities of space to enhance missile defense systems, and training and development of space professionals and space enablers.

the tactical Warfighter on time, every time demands that our space capabilities and architectures become more resilient against attacks and disruption. We must ensure that our Army does not face a day without space and space-related capabilities.

The Army's Space Policy and Strategic Plan

The Army Space Policy, most recently updated in 2009, focuses on the operational and tactical needs of land forces and assigns space related Army organizational responsibilities. It follows implemented DoD space policies and procedures, reestablishes objectives for Army space, and continues the Army Space Council. The Army's Space Policy outlines four broad space related objectives:

- To maximize the effectiveness of current space capabilities in support of operational and tactical land warfighting needs.
- To influence the design, development, acquisition, and concepts of operation of future space systems that enable and enhance current and future land forces.
- To advance the development and effective use of responsive, timely, and assured Joint interoperable space capabilities.
- To seamlessly integrate relevant space capabilities into the operating force.

The Army recently drafted its Army Space Strategic Plan, which is in final coordination with the Chief of Staff of the Army. This document is shaped by national level guidance, such as the National Space Policy and the National Security Space Strategy. The draft plan, coupled with the Army's Space Policy, outlines the Army's space enterprise path for strategic planning, programming, and resourcing.

The essence of our space strategy and the guiding vision of the Army space enterprise are to assure access to resilient and relevant space-enabled capabilities to ensure Army forces can conduct full spectrum operations. To achieve this, our draft space strategy rests on three tenets that link Army strategic planning and programming for space to the guidance in national and DoD space policy and strategy. The three essential tenets are:

- To enable the Army's enduring mission by providing requisite space-enabled capabilities to support current operations, as well as future transformation efforts.
- To leverage existing DoD, national, commercial, and international space-based capabilities.
- To pursue cross-domain solutions to create a resilient architecture to mitigate threats, vulnerabilities, and assure access to critical capabilities needed to sustain land force operations.

The Army—A Provider of Space Capabilities

The Army is a provider of space capabilities. Historically, our greatest investment in space capabilities has been in the ground segment—the integration of space capabilities into operational forces through command and control systems, communication terminals, and intelligence feeds. However, due to the critical importance of space capabilities, the Army has strengthened and broadened its investment to include exploitation of national and strategic space capabilities, defensive counterspace, leveraging the capabilities of space to enhance missile defense systems, and training and development of space professionals and space enablers.

In 2012, the Army plans to invest approximately $500 million in pursuing space and space-related activities, evolving from a position of simply exploiting strategic space-based capabilities to a position where the Army is fully integrated into the planning, development, and use of theater-focused operational and tactical space applications.

USASMDC/ARSTRAT is the Army's space proponent, and coordinates with the Army Intelligence and Signal communities, USSTRATCOM, and other members of the Joint community to bring space-based capabilities to the Warfighter. USASMDC/ARSTRAT is at the forefront—providing trained and ready space forces and capabilities to the combatant commanders and the Warfighter and building future space forces. Aside from delivering and integrating space products and trained professionals to Joint Warfighter operations, USASMDC/ARSTRAT also conducts space mission related research and development activities. I would like to highlight our space provider role within three core tasks: providing trained and ready space forces and

Space Provider >> Page 14

From Space Provider
>> Page 5

capabilities to the combatant commanders (COCOMs) and the Warfighter; building future space forces; and researching, developing, testing, and integrating future space capabilities.

Providing Trained and Ready Space Forces and Capabilities. Over 1,100 Soldiers and Civilians serving with USASMDC/ARSTRAT's 1st Space Brigade provide access to products and services that are essential in all phases of combat operations. The brigade's three battalions, comprised of active, National Guard, and Reserve Soldiers, support combatant commanders by providing satellite communications, space operations, missile warning, and forward deployed space support teams. These Space Operations Officers, along with members of the Army's Space Cadre, directly influence the execution of strategic operations in support of tactical level ground maneuver forces. Their principal duties include planning, developing, resourcing, acquiring, integrating, and operating space forces, systems, concepts, applications, or capabilities in any element of the DoD space mission areas.

During the 1990s, realizing the essential need of space professionals, the Army created Functional Area (FA) 40—Space Operations Officers—within our commissioned officer corps. USASMDC/ARSTRAT is the Army's personnel developer for FA 40 officers. The approximately 300 FA 40s serve in Army, Joint, and DoD commands and organizations across all echelons—tactical, operational, and strategic. The Army's Space Cadre, initiated in 2007, is comprised of both military and civilian personnel who represent the Army's interests in space operations, policy, science and technology, and acquisition. The Cadre consists of Soldiers and civilians from a wide variety of branches, career fields, disciplines, and functional areas.

As part of the DoD overarching effort, the Army has integrated Space Operations Officers into the Office of the Secretary of Defense, the Joint Staff, the Air Staff, the North American Aerospace Defense Command, the Air Force Space Command, and other space focused organizations and academic institutions. In each of these organizations, personnel not only provide the Army perspective of space related capabilities, they articulate requirements from an operational standpoint in the Joint and combined environments. A summary of the critical space capabilities provided by Army's space professionals is highlighted below.

Army Space Support Teams During operations, including those in Afghanistan and Iraq, the USASMDC/ARSTRAT's Army Space Support Teams continuously provide space-based products and services to combatant commanders and other international government agencies. The teams are on-the-ground space experts, pulling key commercial imagery, forecasting the impact of space weather, and providing responsive space support to their units. Just last month, three new teams deployed to theater to provide their capabilities for the next nine months—60 teams have now provided invaluable on-the-ground responsive expertise to combatant commanders and the Warfighter in Afghanistan and Iraq.

Satellite Communication Support Centers USASMDC/ARSTRAT provides and operates the DoD's Regional Satellite Communications Support Centers and Wideband Satellite Communications Operations Centers, located both in the United States and overseas. These centers are the regional management hubs for a majority of the DoD's satellite communications capabilities, providing reliable and responsive support. In close partnership with our Air Force and Navy partners, we ensure essential communications lifelines are available to our ground, air, and sea forces, as well as the diplomatic corps around the world.

Friendly Force Tracking Situational awareness is particularly vital given the challenges of conducting operations in urban areas. As the Army has the greatest number of Warfighters and systems to track on the battlefield, our Friendly Force Tracking assets help deliver timely situational awareness and identify friendly forces during combat. Additionally, today, in support of Operation Tomodachi, we are providing the friendly force tracking architecture that enables the U.S. Forces Japan and the U.S. Pacific Command to see its ground support elements via a common operational picture.

Ballistic Missile Early Warning Critical to the Joint Force Commander's theater force protection, the Army provides ballistic missile early warning from within the theater or region. The 1st Space Brigade's Joint Tactical Ground Stations Detachments, operated by Army personnel, monitor enemy missile launch activity and other infrared events of interest and share the information with members of the air and missile defense and operational communities. Presently, our JTAGS Detachments are forward-deployed across the globe, providing assured missile warning to theater commanders and Joint Warfighters.

Geospatial Intelligence Support The Army, as an operational element of the National System for Geospatial-Intelligence, provides geospatial intelligence production in direct support of the combatant commands. The Army's space and intelligence experts perform exploitation of a variety of commercial, civil, and DoD imagery data derived from space and airborne sources. Current support includes providing imagery to U.S. Africa Command in support of contingency operations in Libya, as well as imagery and exploitation products to U.S. Pacific Command regarding the extent of damage to the Fukushima nuclear power site in Japan. Additionally, they aid in the exploration of emerging spectral system technologies and in transitioning new capabilities to the Warfighter.

Operations Reach-back Support and Services The USASMDC/ARSTRAT Operations Center, located at Peterson Air Force Base in Colorado Springs, Colorado, provides reach-back support for our space experts deployed throughout the operational force and allows us to reduce our forward-deployed footprint. This center maintains constant situational awareness of deployed elements, continuously responds to requests for information, and provides the essential reach-back system of connectivity with technical subject matter experts.

Tactical Exploitation of National Capabilities The Army Special Program Office is the Army focal point for the exploitation of national intelligence, surveillance, and reconnaissance assets and products through the Tactical Exploitation of National Capabilities program. The Army is fully integrated into the National Reconnaissance Office and the Intelligence Community and has numerous deployed units providing support throughout the intelligence battalions and brigades.

Strategic Space Surveillance The Army also operates facilities and assets that are of upmost importance to advancing the Nation's use of space. The U.S. Army Kwajalein Atoll/ Reagan Test Site (RTS), located in the Marshall Islands, is a national asset that provides unique capabilities to monitor objects in deep space. The RTS maintains a vigilant watch, providing critical space situational awareness and contributing to a variety of missions.

Building Future Space Forces The Army uses established and emerging processes to document its space-based needs and pursue Army and Joint validation of its requirements. This disciplined approach helps ensure limited resources are applied where Warfighter operational utility can be most effectively served. We continue to pursue and develop the necessary adaptability across the Doctrine, Organization, Training, Materiel, Leadership and Education, Personnel, and Facilities (DOTMLPF) to mitigate threats and vulnerabilities while sustaining land force operations.

As the Army's force modernization proponent for space, high altitude, and global missile defense, USASMDC/ARSTRAT ensures space, high altitude and missile defense capability development is integrated and nested within the broader Army capability development efforts. The command analyzed the potential of long-endurance, long-loiter Medium and High Altitude platforms to support Army missions. The AN/TPY-2 radar detachment is another excellent example of Army cross-functional synchronization, as USASMDC/ARSTRAT worked with the Army's Air and Missile Defense Task Force, Fires Center of Excellence (FCoE), U.S. Army Forces Europe, Missile Defense Agency and USSTRATCOM's JFCC-IMD to deliver this capability to the European theater.

To properly train space professionals, the Army developed the Space Operations Officer Qualification Course and the Army Space Cadre Basic Course. These two courses provide the necessary foundation for the Space Cadre. The Army also leverages the high-quality space training developed and administrated by the Air Force. Finally, numerous space officers complete additional post-graduate studies at the Naval Postgraduate School, accredited civilian institutions, and training with industry. The Army is committed to growing, training, developing, tutoring, and advancing Space professionals.

Researching, Developing, Testing, and Integrating Future Space Capabilities The Army is an instrumental Joint partner in addressing tomorrow's space requirements to ensure land warfare dominance. Each year, the Army plans and programs funding for space related technology research and development. Despite the current and projected resource constrained environment, the Army recognizes the need to prioritize, leverage, and invest in promising space research and development technologies. I would like to briefly highlight three technology endeavors that have potential to provide space support to the ground Warfighter.

Space and Missile Defense Command–Operational Nanosatellite (SMDC-ONE)Effect: To achieve enhanced capabilities for the Warfighter from space, an approach that holds great promise is the deployment of constellations of very small satellites into low earth orbit.

SMDC-ONE, is an initiative to meet specific Army space related operational needs via the use of nanosatellites. The Army recently built eight, nine-pound satellites for use in a technology demonstration. The first of these nanosatellites was placed into low earth orbit last December. This marked the first launch of an Army designed and manufactured satellite in more than 50 years. The primary objective was to receive data from a ground transmitter and relay that data to a ground station. The demonstration was successful and offers evidence that the means may be available to provide the Army—the largest user of space data—with an ability to economically provide non-line of sight sensor data from non-permissive environments to remote located Soldiers.

Kestrel Eye: Kestrel Eye is an Army endeavor to manufacture a small imaging satellite that will provide near real-time, medium resolution imagery to the tactical Warfighter. Since its manufacturing costs will be relatively inexpensive, Kestrel Eye may have the ability to be robustly deployed into orbit, providing a potential solution to present existing imagery needs to tactical forces. The satellite is designed for operational theater command capabilities, providing dedicated space-based support to the tactical commander. Kestrel Eye is scheduled for its initial launch in 2012.

Vertical/Horizontal Integration of Space Technologies and Applications: We are successfully progressing in a technology demonstration to integrate space-based data into our ground forces at the tactical level. The Vertical/Horizontal Integration of Space Technologies and Applications (VISTA) provides the capability to seamlessly distribute relevant space developed products and services to all levels of Army battle command—from corps and theater needs to the specific needs of individual Warfighters. The capability to identify what specific pieces of space-developed information are relevant to individual Warfighters is a key component of VISTA's support capability.

Conclusion

The Army is dependent upon the capabilities that space brings to the battlefield—space is the ultimate high ground. Space capabilities continue to be inextricably linked to warfighting. In present and future conflicts, we rely on and advocate for space products and services provided by the DoD, other government agencies, our allies and coalition partners, and commercial entities to shoot, move, and communicate. The Army will continue to provide trained and ready space forces and capabilities to the combatant commanders and the Warfighter, build future space forces, and research, develop, test, and integrate future space capabilities. Fully integrated capabilities will provide depth, persistence, and reach capabilities for commanders at the strategic, operational, and tactical levels. Assured space systems and well-trained and experienced space professionals significantly reduce the fog, friction, and uncertainty of warfare. The Army depends on space for everything we do in our military operations. This Committee's continued support is essential in enabling us to maintain and further improve our space capabilities and provide the best-trained space professionals to combatant commanders. The courageous Warfighters that serve to protect the safety and welfare of our Nation deserve nothing less.

Epilogue

I appreciated having the opportunity to testify before the Senate's Strategic Forces Subcommittee to discuss the Army's requirements as a user of space, the Army's space strategy and policy, and the capabilities the Army brings to the Joint fight. Including this testimony in the Army Space Journal provides our readers information about the direction the Army is heading with Space.

SECURE THE HIGH GROUND

The Sun Never Sets on USASMDC/ ARSTRAT