The View From (Army) Space ...

By COL Bruce Smith

Today's Army is critically dependent upon Space capabilities to enable and enhance land warfare. Virtually every Army operation relies on Space capabilities to some degree to enhance the effectiveness of our combat forces. Currently, the Army uses Space capabilities to communicate, navigate, target the enemy and protect our forces. In the not too distant future, the Army's use of and dependence on Space capabilities will be more robust than today. The Army's future formations and systems will use Space in new ways that will cut across traditional Battle Field Operating Systems and bring increasingly integrated and effective capabilities. Tomorrow's Soldiers will rely on the expanded use of Space capabilities, to include expanded Space forces, Space expertise, Space enabled systems and expanded Space doctrine.

The Directorate of Combat Development, as part of the Future Warfare Center, is working to bring these expanded Space capabilities to tomorrow's Soldier. We work to develop the future doctrine, organizations, training and leadership programs that the Army will use to employ Space and missile defense capabilities. Our charter is to ensure the Army has the Soldiers and structures that are ready to meet future Space and missile defense requirements. Through independent and complementary activities, our overriding and unifying purpose is to expand Space and missile defense capabilities within the Army. This being the **Army Space Journal**, I am going to concentrate on our Space roles and activities.

Army Space Master Plan

Though the Air Force is designated as Department of Defense's Executive Agent for Space, the Army has a significant role in both current and future Space operations. Space activities and operations are found throughout the Army in every component, as well as across a number of branches, agencies and commands. Combat operations, support operations and acquisition activities are all impacted by Space, and in turn, shape and influence Army Space requirements.

In previous years, Army Space requirements, as well as activities, were developed and managed separately in various stovepiped proponents or organizations. Today the Army is rapidly moving to break down stovepiped organizations and systems in order to increase combat effectiveness and gain efficiencies as well. To guide the management and expansion of Space activities in this changing environment the Army has recently published the Army Space Master Plan. The plan is just what it says. It is the Army's plan, not Space and Missile Defense Command's plan. The plan identifies Army capability gaps as well as Army priorities and solutions to meet these gaps. The plan crosses all Army organizations and proponents and provides a comprehensive and fully integrated approach to meet Space needs at tactical, organizational and strategic levels. The Army Space Master Plan is helping to ensure Space capabilities are expanded across the Army, by linking Space doctrine, organizational structures, as well as spending priorities, with Army operational needs in a holistic fashion.

Space Cadre

Another way we are expanding Army Space capabilities is through the creation and implementation of the Army Space Cadre. Per Congressional direction, the Army, in conjunction with each of the other Services, is standing up a Space cadre to develop and maintain a cadre of Space qualified professionals in sufficient quantities to represent the Army's interests in Space acquisition and operations. The Army Space Cadre will be man joint Space organizations as well as serving as Space experts within Army staffs and organizations. Today the cadre consists of FA40s, who are identified as Space professionals. However the Army Space cadre

The most recent graduating class of FA40s (pictured) are added to the ranks of the more than 200 Space Operations Officers already serving at all levels of the Army and the Joint community. The graduates of FA40 class 06-02 are (first row l. to r.) MAJ Sergio A. Gonzales, MAJ Timothy Ormand, MAJ John T. Prouty, CPT Elizabeth Thomas, CPT Andy R. Lee (USMC), MAJ Edward Schober, MAJ Samuel Ybarra, LTC John C. Madrid and SGT Daniel Holscher. Second row (l. to r.) includes MAJ Robert Berg, LTC Jeffery Reichman, CPT Adam C. Wolfe, MAJ Paul B. Strickland, 1LT Derek Musser, MAJ Paul Madsen, 2LT Steven Cowan and MAJ Dennis Willie. Back row (l. to r.) includes MAJ Keith Stone, MAJ Kenneth Klock, MAJ Johnathan Matey, MAJ Scott Moore and CPT Matthew Bowes. Not pictured is CPT Timothy Bean.

is expanding. Recently, the Senior Army Space Council, whose members consist of senior members of the Army Staff as well as Training and Doctrine Command, has approved the expansion of the Space cadre to include enlisted Soldiers and civilians. These members of the cadre will be designated as Space Enablers. Space Enablers will serve throughout the Army in a variety of career fields. Their primary career field is not Space, but they perform unique Space related tasks or functions related to Army Space acquisition or operations.

The Army is in the midst of identifying its Space Enabler personnel and billets now. In addition to identifying these personnel and billets we are also reviewing all Space training in the Army. Over the next several years the Army will gain a Space cadre that crosses all components, consisting of both military and civilian personnel that have a common baseline of Space knowledge and training. The cadre will work across the Army in multiple proponents and organizations. Army Space cadre personnel will directly work on and influence operations, acquisition, training, etc. The Army Space cadre will expand Space knowledge across and throughout the Army, bringing increasingly effective Space capabilities to the warfighter.

Space Support Elements

We are also expanding Space capabilities within the Army by the ongoing efforts to field organic Space forces to several Army headquarters; Army, Corps, Divisions and Fires Brigades. In the past, U.S. Army Space and Missile Defense Command provided Space expertise and capabilities to forces through augmentation in the form of the Army Space Support Teams. While the teams continue to provide critical capabilities to deployed forces, the Army has realized that headquarters need their own organic Space capabilities in order to facilitate improved Space planning and integration. Space Support Elements are expanding both Space capabilities within the Army, as well as opportunities for Space Operations Officers. FA40s will have the opportunity to be assigned to senior staffs and bring Space expertise to forces that previously did not have dedicated Space support. FA40s within the Space Support Elements are serving a critical role in expanding Space capabilities across and throughout the Army.

Space Integration

The Army is the largest user of Space capabilities and products. Space-based capabilities and enabled products and services provide today's ground warfighter critical capabilities that were unimaginable only a few years ago. These capabilities are moving out of the strategic realm and are now aiding in the operational as well as tactical warfight. Yet the Army does not own, develop or operate the majority of the Space systems it uses and relies upon. How does the Army ensure that its capability gaps are being met? Integration is the short answer. Army personnel from the Future Warfare Center, Training and Doctrine Command, Department of Army Staff, ASA(ALT) are continually working together to identify and define Army requirements as well as develop Army positions concerning jointly provided Space capabilities. These individuals work together in close concert, often under the direction of the Army Space Council, to integrate disparate needs and opinions into a single Army requirement or need. They work to ensure Army requirements are integrated into other Service's and Agency's development documents and concepts. We are working to change others' thinking concerning Space. Space derived capabilities cannot be confined to the operational level only. The Army through experience in Operation Iraqi Freedom and Operation Enduring Freedom recognizes that Space capabilities are critical to the modern ground fight — down to the tactical level. Soldiers down to the lowest levels of command require satellite communications; Space based imagery, Space position navigation and timing data as well as missile warning information. Space integration activities are expanding Space capabilities within the Army by changing mindsets as well as operational concepts throughout the National Security Space community.

Training

Lastly, we are expanding Space capabilities across the Army

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functions for payload operations. The first function is the modeling and simulation of the HALL platform and payload that will validate the military utility of the HALL concepts and support military modeling and simulation exercises. The second function is the hardware-in-the-loop capability that will provide an interface for payloads to be integrated, tested, and verified prior to demonstration on HALL platforms.

Big Crow Program Office

At a slightly lower altitude, SMDC/ARSTRAT's Big Crow Program Office provides support to customers that ranges from Electronic Warfare threat environments, Telemetry recording and retransmit, air refueling, Information Operations, technology prototyping and demonstrations, and training. Customers supported by the Big Crow Program Office are the U.S Navy Program Office for Aegis, the National Aeronautics and Space Administration (NASA), the National Reconnaissance Office, MDA, the North American Aerospace Defense Command (NORAD), and the North Atlantic Treaty Organization or NATO.

The Big Crow Program Office was established with a mission to provide Electronic Warfare environments for the purpose of testing U.S. military Radio Frequency sensor, communication and navigation systems. Today, Big Crow's mission and capabilities span the electronic gamut of Electronic Warfare, Telemetry, Radar, Electro-Optical, Information Operation, and System Test Bed. Mobile and world-wide deployable, the Big Crow Program Office offers a variety of unique capabilities to the Nation's research, test and evaluation, training and commercial communities. Two C-135 aircraft, a myriad of smaller fixed and rotary wing platforms, ground platforms, advanced instrumentation, multi-spectral electronics, in-house configuration control and modification authorities, and technical competency are several of the advantages that give the Big Crow Program Office overall technical capability that is significantly greater than the sum of it parts.

Big Crow Aircraft 8050 Supporting Airborne Laser Program

As the operator of the only remaining large-scale airborne Electronic Warfare test platforms, Big Crow is a key national asset that provides a unique combination of capabilities and solutions for test, training, exercises and on-call operations. Big Crow has an unmatched ability to dissect threat systems, identify vulnerabilities, and exploit them to the warfighter's advantage — key characteristics for the delivery of non-kinetic effects to these threat systems. Applied to friendly systems, this offers unique opportunities to exercise and train Tactics, Techniques and Procedures in an operationally realistic threat environment.

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by expanding the scope of Space training and opportunities. The Army has partnered with the Air Force at the National Security Space Institute to conduct Space Operations Officer Qualification training. In addition to training, all newly designated FA40s, U.S. Army Space and Missile Defense Command/U.S. Army Forces Strategic Command and the National Security Space Institute train roughly 40 additional Army personnel each year that serve in a variety of career fields and commands across the Army. In addition the Army provides fully qualified instructors to the institute. These Army instructors bring their Space knowledge and operational experience to the institute, providing a valuable joint perspective concerning Space operations to the faculty and students, the majority of which are in the Air Force. Their presence expands Army Space knowledge as well as expanding the Air Force's awareness of the Army's Space requirements, operations, force structure and capabilities.

Space training will continue to expand within the Army over the next several years. Establishment of the Space cadre will drive new Space training requirements. The Army envisions that Space training will expand beyond FA40s to include civilians and enlisted Soldiers, as they are designated and officially incorporated into the Space Cadre. In addition Space training will grow to include National Guard and Reserve Soldiers who will man newly formed reserve component Army Space Support Teams and Space Support Elements. We will have to look at new and innovative methods of training to include the use of Mobile Training Teams, distance education and increased joint education opportunities, to meet the needs of deployed and Reserve Component forces. In summary our future training activities and programs will continue to expand Space knowledge, expertise and capabilities across the Army.

Conclusion

The Army has changed dramatically over the last five years and will continue to evolve rapidly for the foreseeable future. New systems, such as Future Combat Systems, WINT and JNN will change how the Army is equipped. In turn, new doctrine and organizational structures will be implemented to take advantage of these new systems. The Army will turn to Space capabilities to enable its future force and ensure that the American Soldier has every advantage possible. Consequently, Space Operations Officers and Space Cadre will actively work to promote and expand Space knowledge, expertise and capabilities across the Army, to further empower the American Soldier.