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Illustrating the Complexity of Space

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Talk about a phrase that can take a discussion in many different directions–the Common Ground of Space. It should stretch our ability as creative, critical thinkers to find as many examples of commonality in the Space business. It's healthy. It should help our own understanding and, by doing so, it should also help our effort to communicate to people the very complicated answer to how Space impacts our lives in both commercial and military arenas. The beauty of it is that commonality in the Space business can be defined in as many different ways as it impacts our world. And, all those ways illustrate the many different pieces of complexity in the Space puzzle of deriving value for our Nation.

And, if you want to get technical and energetic, exploring the various ways of commonality in Space may also help in developing the much-needed theory on Space power. Theory is supposed to show relationships and explain how in the context of achieving national power. We have that fairly well-defined in terms of Air, Ground, and Sea powers–but not in Space. A reader from outside the Space community e-mailed his astonishment that an understanding of this level does not already exist in theoretical terms for Space power. It is true. Even though Space has matured into the lifeblood of military and civil operations over the last decade, there is little clearly established scholarly work to articulate it.

This is an argument for a fundamental reason for why many people–in both military and commercial communities–have little understanding of what Space capabilities actually achieve for the Nation. If our community wants the big boys and girls to truly and fully recognize Space power value alongside Ground, Air, and Sea, then it needs to be articulated in terms of proven theory. With the last ten years of war with technological development and integration, there is ample material to at least begin developing this Space power theory today. Once it is developed, the heart of it will have something to do with this question of what is common in terms of use, delivery, integration, and dominance in Space capabilities.

A natural beginning point today has to do with our perspective on these four key words–use, delivery, integration, and dominance–when it comes to Space. Our national effort is focused on partnerships both within and outside the military context. Partnerships take the whole concept of military "joint" to a more mature place. We in the military work very hard to overcome service cultures that can block efficiencies. In terms of partnerships, though, there are required investments and desired equities for the parties involved in the arrangement. When it comes to commercial and military Space, these partnerships become a very easily identified common ground as they can cross over nations, militaries, agencies, services, and specialties.

Our cover art for this mini edition of the Army Space Journal demonstrates partnerships on several levels–military, Civilian, contractor; ground, air, sea; move, shoot, communicate. But there is another consideration of commonality that needs to always be in the forefront of our thinking. Last week a fallen Soldier arrived on Peterson Air Force Base, killed in Iraq in July. He was a young sergeant from Colorado Springs, Colo., whose brother also served as a sergeant and their father as an Army officer. Soldiers, Airmen, and Civilians lined the boulevard from the flight line to the gate of the base to pay respect. The ultimate value of cumulative military power is to conclude conflict and maintain peace. From the Warfighter's perspective, the most important common ground is in knowing how Space power contributes to this objective.

Integrating Space Capability Gaps

BY DAVID L. LADY &
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Capability Development Realities

The reality of capability development has changed greatly over the last few years. In an era of constrained resources there is little appetite for costly technology solutions to Army capability gaps, and many of USASMDC/ARSTRAT's capability development efforts must be nested within larger Army solutions and acquisition programs; relevant to the enduring operational needs of the force and demonstrating definite cost benefit to the Army.

It is important for all members of the Army Space Cadre to understand the current Capability Integration process; the changes now instituted will require any capability initiative to be validated as relevant and important to an Army Warfighting Function—one or more of the six Warfighting Functional Centers of Excellence (CoE) must also champion the capability. SMDC/ARSTRAT will continue to develop or mature capabilities to meet United States Strategic Command missions as well as Army missions and develop capabilities that take advantage of technological advances. The surest way to transition a new capability into an enduring Acquisition Program is to integrate the capability into the solution sets for the Required Capabilities of a Warfighting Functional CoE.

Army Warfighting Concepts and Capability Integration

Concepts feed the capability development process and products. Concepts illustrate how forces will operate, describe the capabilities required to carry out full-spectrum operations against adversaries, and how a commander might employ these capabilities to achieve desired effects and objectives. Each concept describes problems to solve, the components of potential solutions, and how those components work together to solve military problems for a period 6-18 years in the future.

The Training and Doctrine Command's Army Capability Integration Center (TRADOC ARCIC) develops the Army Capstone and Operating Concepts. Based on these concepts, Army Centers of Excellence lead the development of Warfighting Functional Concepts (WfF): The Mission Command CoE at the Combined Arms Center develops the Mission Command Concept; the Intelligence CoE, the Intelligence Concept; the Fires CoE, the Fires Concept; the Maneuver CoE, the Movement and Maneuver Concept; the Maneuver Support Center, the Protection Concept; Combined Arms Support Center, the Sustainment Concept. TRADOC ARCIC has empowered each of these centers by chartering them to lead an Integrated Capability Development Team (ICDT). These teams consist of both branch proponents and force modernization proponents who participate in Capability Based Assessments in order to establish and describe required capabilities in the Functional Concept Pamphlet (TRADOC Pam series 523-). SMDC/ARSTRAT is primarily aligned with the Mission Command CoE and ICDT, and has also been designated as a major additional component to the other five CoE ICDTs. All Army Space Operations required capabilities and gaps must be validated by the Mission Command ICDT or by one of the other ICDTs. Although some might view this process as cumbersome, DOTLMPF solutions to validated capability gaps will have much better opportunity to transition into Army Doctrine or Acquisition Programs.

Influencing the Capability Integration Process – The Way Ahead

The SMDC/ARSTRAT Future Warfare Center focuses on integrating space capability gaps into the Capstone, Operating, and Functional Concepts written by ARCIC or one of the six Warfighting CoEs. ARCIC and CoEs are on a two year cycle to regularly revise their concepts. The first cycle of this new process began nearly two years ago and developed the initial set of integrated WfF Concepts. The next cycle will soon begin to update the Capstone, Operating, and Functional Concepts. Our SMDC Battle Lab Concepts and Wargames Division will expand the description of Army Space in the next versions of all concepts. Future Warfare Center directorates and divisions will become involved as integral or supporting members of each ICDT, with emphasis on the Mission Command CoE. SMDC/ARSTRAT military analysts will learn the OPTEMPO of the ICDTs and participate in all of their processes in order to convince the other participants of the relevance and importance of Space to solving the warfighting functional problems, and to develop support for SMDC/ARSTRAT-developed capability solutions.

Within this revised concept to capability framework, SMDC/ARSTRAT will develop the next generation of Army Space capabilities utilizing a full DOTLMPF approach, seeking to integrate capabilities into existing doctrine, architectures, and programs. To this end, the Future Warfare Center is actively seeking input to this process. Recommendations and suggestions across the DOTMLPF areas or specific capability or gap suggestions are welcome.

As the Army resets and reorganizes over the next few years, this command intends to be well-positioned to influence the capabilities development process and address all the Army Warfighting Functions. SMDC/ARSTRAT will develop from an organization providing stove-piped, independent, niche capability solutions into one that is fully integrated into the process of bringing the strategic level capabilities of Space and Space-enabled systems to the tactical edge.