

2.0 **Army Space Journal**

SPACE • MISSILE DEFENSE 2012 SPACE CADRE EDITION



SPACE BLUEPRINT

Optimizing Capabilities for Interdependency



A LEANER
MORE
CAPABLE

Decisive Force



SPACE & MISSILE DEFENSE

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U.S. Army Space and Missile Defense Command/Army Forces Strategic Command publishes the *Army Space Journal* quarterly, with special editions as required. The publication consists of four sections, THE LEADING EDGE – Leadership Updates; TALKING SHOP – Space Topics; TIP OF THE SPHERE – Space Cadre News & Features; and FLIPSIDE – USASMDC Features & Briefs.

The Journal provides a forum through which Space and Missile Defense professionals can disseminate professional knowledge and furnish information within the U.S. Army. The purpose is to increase the effectiveness of Space operations through a professional discussion of events and lessons learned. It is also intended to inform the Army warfighter on Army Space issues.



2.0 **Army Space Journal**

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2012 SPACE CADRE EDITION

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Looking Back for Tomorrow

Whenever I think of plans for the future in anything, I look back. Benson Lossing addressed this in beginning pages to his History of the Civil War published in 1866. “The task of making a record of the events of the late Civil War in our Republic is not a pleasant one for an American citizen. It would be more consonant with his wishes to bury in oblivion all knowledge of those events which compose the materials of the sorrowful story of strife among his brethren, of terrible energy and woeful operations. . . . What remains for the American citizen to do, is to see that the stylus of history shall make a truthful record.”

Clear in Lossing’s point is the concept that an honest recognition of facts and occurrences can help guide decisions for the future. Quite honestly, our military strength today rests directly upon what emerged from both the American Revolutionary battles and the Civil War – in addition to the many other critical developments and maturation of our nation in its history. But Lossing further points out the “duty” of an honest assessment of even difficult facts: “To inspire mankind with a love of justice and a hatred of its opposite, and of everything that impedes the onward and upward march of humanity.”

There is also the idea of collaborative effort, or partnerships. Another historical writer, Henry Howe, wrote a series of narratives in 1859 to illustrate “heroism, self-reliance, genius and enterprise” of early Americans. In one of those, Howe recounts the story of a youngster whose father served all eight years of the American Revolution. The child noticed how difficult it was for the mother to care for and feed her four children. Yet whenever the Soldier-father came home to visit, the mother did not convey to him how difficult things were. “... She would not weaken his hand or soften his heart, for, she said, the Soldier’s lot is hardest of all.”

Along with having motivation for a better tomorrow, the idea of partnerships had national security implications during our nation’s infancy. It is easy to forget this and to think these concepts are more modern solutions for even more complicated situations of today. But the severity of the Civil War and American

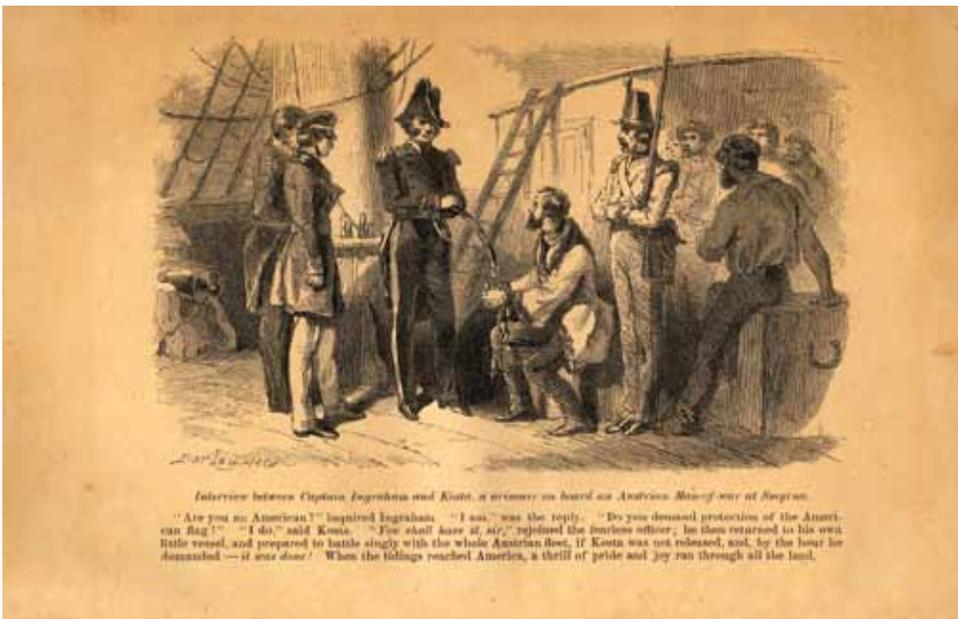
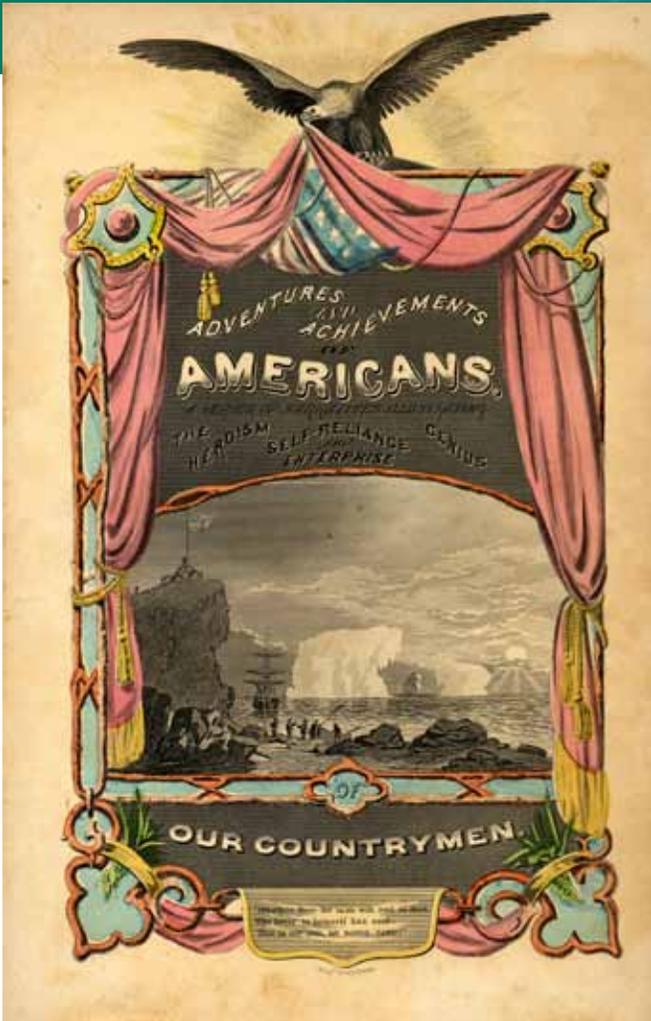
Revolution was in fact amongst the most significant—if not the most significant—in our history. And to find partnerships and futuristic vision as critical to those efforts then only strengthens the consistent necessity for them during times that are complicated in different ways.

It is readily apparent how both of these integral ingredients to military strategy remain equally true today – or even more so. Can you imagine where we would be today without these two foundational principles as they evolved with World Wars I and II? Think of all the development in partnerships since the end of WWII on so many levels—economic development, industry, international, political, geo-political. Our nation has clearly placed a value on making efforts to improve things for tomorrow while developing important webs of partnerships and agreements to strengthen the work. Which only reinforces the idea of emphasizing and enlarging them as we move into very critical challenges of the future.

And, they are even more critical when we think in terms of the complex business of providing Space and Missile Defense capabilities to our nation – concepts inconceivable on many levels in the first 100 years of this nation. They were even inconceivable in terms of technology prior to the extent of capability testing by the United States and then-Russia following WWII. And they were probably inconceivable on the geopolitical level until 9/11 and other events of today. Yet they are the centerpieces as our nation moves forward.

All of this gives purpose to this mini edition of the ASJ focused on Space Blueprint. It really has nothing to do directly with Lossing’s terrible lessons from the Civil War or even the relationship between a Soldier and his or her spouse from Howe. It has to do with making a plan for tomorrow – putting an analytical assessment to what has occurred up against where we want to go. It has to do with fostering partnerships even in new and different ways that we do not always see – maybe even in venues we take for granted.

I challenge you to use this ASJ as a starting point as you continue the discussion.



Blast from the Past

Images from mid-1800 American narratives provide a historic window into the ideas of wanting to make a better tomorrow while recognizing the necessity of partnerships. Upper Left: Frontal Artwork engraving from Henry Howe's 1859 "Adventures and Achievements of Americans" showing the discovery of America. Lower Left: Another frontal engraving from Howe's work depicting a British officer interviewing an American prisoner. Above: A self-portrait engraving of Benson Lossing instructing school children in the 1870s on America's history in its first 100 years.



» **LTG Richard P. Formica**
Commanding General USASMDC/ARSTRAT

Synchronizing Effort

Providing Capabilities 24/7/365

Welcome to the 2012 Army Space Cadre Symposium! This annual symposium is a great opportunity to gather for a few days of professional development – to share ideas, lessons learned, and discuss areas for improvement across the Space cadre community.

This year’s theme: “Space Blueprint: Optimizing Capabilities for Interdependency,” is all about developing a roadmap for our actions from this day forward. What are we going to do to ensure we are providing capabilities for today, tomorrow, and the day after tomorrow that provide the most “bang for the buck” in synch with the Joint Space community’s capability and materiel development efforts?

I challenge each member of the Army Space professional community to take that question to heart – to examine how what you do is contributing to that question. Every day, 24/7/365, we have Space professionals deployed, forward-stationed, or CONUS-based, providing SATCOM, missile warning, Space control, and Space support capabilities to the Joint Warfighter and to the nation. Behind the scenes, we have a host of other Space cadre members who ensure the DOTMLPF efforts are synchronized with the Army and Joint Space community.

— the —
Leading
Leadership
Updates **Edge.**

What will you do to ensure we are providing capabilities for today, tomorrow, and the day after tomorrow that provide the most “bang for the buck”

USASMD/ARSTRAT has three core tasks – 1) Provide trained and ready Space and Missile Defense forces and capabilities to the Warfighter and the Nation (Our Operations Function – providing capabilities Today); 2) Build future Space and Missile Defense forces (our Capability Development Function – providing capabilities for Tomorrow); 3) Research, test, and integrate Space, Missile Defense, cyber, directed energy, & related technologies (our Materiel Development function – providing capabilities for the Day-After-Tomorrow).

Our Operations tasks are executed by our operations staff – and by the two brigades headquartered here in Colorado Springs, with Soldiers and Civilians on duty all around the world, and supervised by our Deputy Commanding General for Operations – BG Tim Coffin. On any given day, more than 875 Operational Forces control Space operations and the BMDS around the world – CONUS-based, forward-stationed or deployed. We provide timely and relevant Space and missile defense capabilities to the Army, USSTRATCOM and the Geographic Combatant Commands every day.

Our Operations team is working closely with the Space Support Elements to bring more Space capabilities to the theater. We’re deploying Space teams in support of current operations overseas, and we’re deploying Space teams and planners to support corps, division and brigade training, along with supporting geographic combatant command exercises. We continue to work closely with JFCC Space to provide Army Space expertise and support mission command requirements for Joint Space operations.

Our Capability Development function, executed by the Future Warfare Center, has been busy with a number of DOTMLPF activities. The Battle Lab led an Army-wide effort to write the Army Space Operations White Paper, which served as a foundation to conduct a Space Operations Capabilities Based Assessment (CBA). The Space White Paper and the CBA are part of the Army Space Strategic Plan, and directed by the Under Secretary of the Army. The CBA is currently underway and scheduled to complete in September 2012.

Also in 2012, the Future Warfare Center completed a Space Protection Study for the Army that has now informed the Defense Space Council and the Deputy Secretary of Defense’s Management Group on the Degraded Space Environment. The study provided key insights on the impacts of a degraded Space environment on Army forces at a tactical level, and the

analysis is already shaping future architecture decisions. Additionally, DOTD executes a Space training curriculum of 14 core Space courses; by the end of 2012 it expects to have trained 1,800 USASMD/ARSTRAT Space cadre students in residence or via mobile training teams. DOTD also anticipates training almost 5,000 more non-USASMD/ARSTRAT Army and other services personnel on Space concepts.

In our Materiel Development area - building Space capabilities for the day after tomorrow, our Technical Center is leading three different Joint Capability Technology Demonstrations (JCTD). These JCTDs will test and demonstrate low-cost nanosatellite and launch technologies to deliver space-based communications and ISR capabilities to the tactical Warfighter. The efforts are sponsored by the Department of Defense, with Geographic Combatant Command and Army endorsement. The Technical Center is working on a number of other technology development efforts outside the Space mission area, but all focused on providing capabilities for the Warfighter for the Day after Tomorrow.

These efforts in support of our three core tasks, led by our Operations, Future Warfare Center and Technical Center teams are great examples of integrated USASMD/ARSTRAT activities, and that are coordinated and supported across the Army Space community.

As we look toward the future, one area we must closely examine is the role of our FA40s across the Army and Joint community. Over the last decade of war, our FA40s who have delivered Space capabilities to the fight have gained a wealth of knowledge and expertise that must be integrated into Service and GCC staffs. Where should we place our O-3 through O-6 FA40 billets, to ensure the Joint Space operations are optimized and to ensure Army Space equities are represented as future Space capabilities are developed? We must leverage the growing capabilities of our Army Space cadre – Soldiers and Civilians – to provide assured access to Space capabilities for the Warfighter.

I encourage you to use this conference to increase your situational awareness of key activities going on across the Army and Joint Space community, and think about the challenge before you: What will you do to ensure we are providing capabilities for today, tomorrow, and the day after tomorrow that provide the most “bang for the buck” in synch with the Joint Space community’s capability and materiel development efforts?

SECURE THE HIGH GROUND

The Sun Never Sets on USASMD/ARSTRAT



Space Capabilities

Critical to America's Safety

Welcome to the 2012 Army Space Cadre Symposium. The theme for this year's symposium is "Space Blueprints: Optimizing Capabilities for Interdependency." That is an appropriate theme given that the U.S. Army Space and Missile Defense Command / Army Forces Strategic Command (USASMDC/ARSTRAT) provides capabilities that enable support across boundaries and across domains.

Today, Space is critical to maintaining the safety and well-being of America, our allies and our friends. For most Americans, space-enabled technology is invisible as it provides nice-to-have items like news, sports, and entertainment. It also enables essential items like finance, transportation, and utilities.

For the Warfighter, Space represents more than just "nice to have," it represents critical enablers that are essential in supporting Unified Land Operations. Critical elements such as position, navigation, timing (PNT), persistent intelligence, surveillance, and reconnaissance (ISR), and integrated missile defense provide Warfighters with advanced capabilities. Space also enables USASMDC/ARSTRAT's Joint Friendly Force tracking which tracks more than 1.5 million plots per day around the world in support of Warfighters and other agencies. Those vital capabilities are made possible through the efforts of the Army Space Cadre and their counterparts in our sister services.

Few people – military and civilian alike – really understand how space-enabled products are transmitted or created. Basically, all Soldiers want to know is how fast they can access the information.

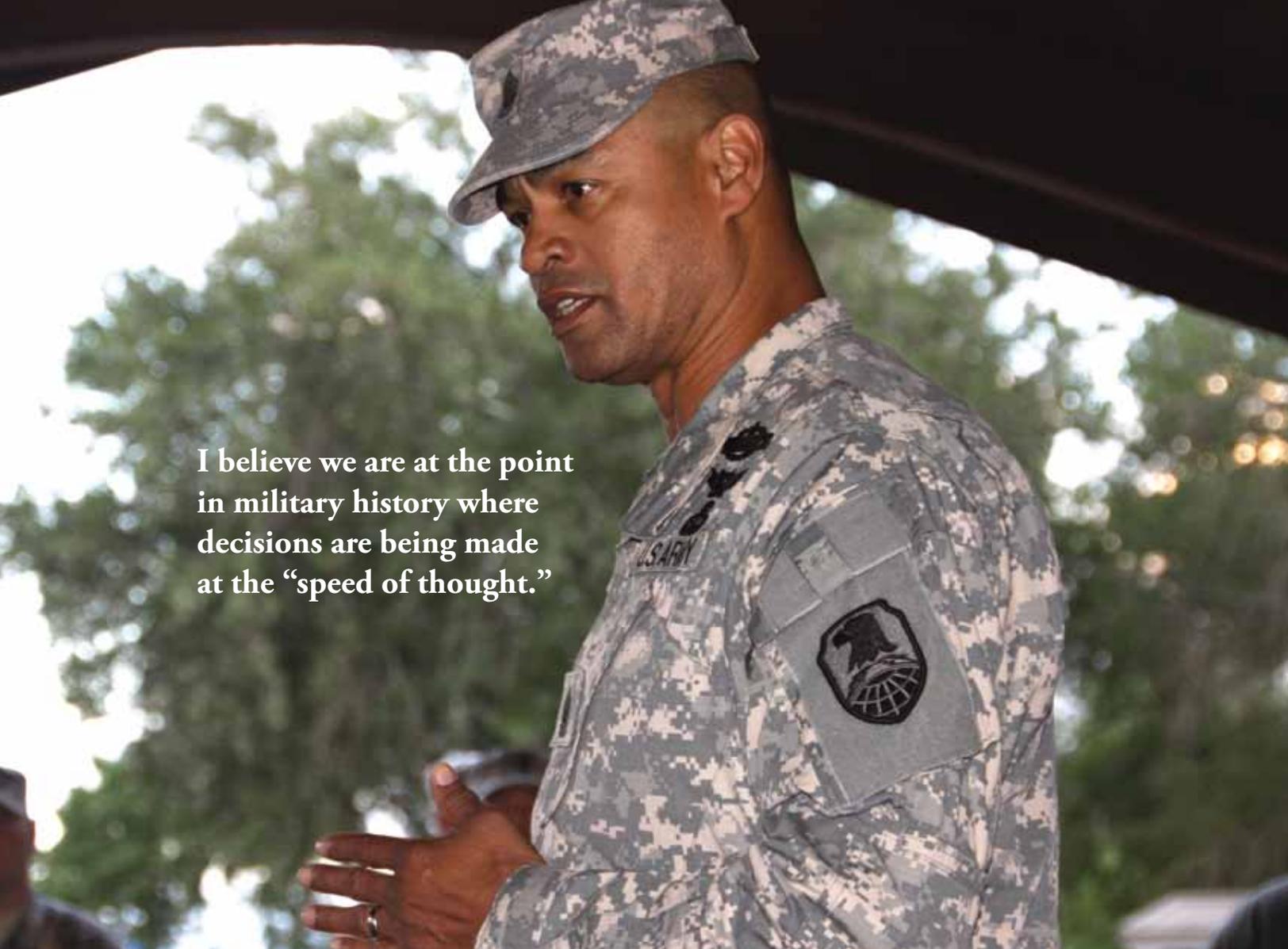
Bill Gates stated in his book, *Business @ the Speed of Thought*, "if the 1980s were about quality and the 1990s were about reengineering, then the 2000s will be about velocity."

I believe we are at the point in military history where decisions are being made at the "speed of thought." Our young Warfighters operate in very complex environments. They are put into positions where their tactical decisions may have strategic implications. At SMDC/ARSTRAT, our focus is to provide capabilities to the Warfighters that enable them to have the right information available to make those hard decisions. Whether that capability is GEOINT imagery, or beyond-line-of-sight communications, we must cull through enormous amounts of data in order to See First, Act First.

Hopefully, we are seeing the end of an era of persistent conflict. But, until that time comes, we will still continue to be challenged by hybrid threats such as terrorists, criminal elements, and irregular forces. These threats combine and create complex challenges for the Warfighter on the ground. Young leaders – NCOS and officers – are challenged like they've never been challenged before. Those complex challenges will still need to be overcome in support of muddy boots on the ground. We have seen our young Soldiers and leaders challenged by the tyranny of distance and overcome those challenges through good training and through the use of technology.

Key to operating at the speed of thought is a change in how and where we process information. Technology has shortened the "flash-to-bang" time between needing information and getting information. Warfighters at the tip of the spear receive and act on more information than ever before.

At the tip of the spear where technology and hybrid threats converge is the Army Space Cadre. These Army Space professionals link Warfighters to advanced Space capabilities. Providing Space capabilities to the Warfighter at the "speed of thought"



I believe we are at the point in military history where decisions are being made at the “speed of thought.”

requires educated, trained, and versatile Space professionals. Working across command and joint lines of communication to “Optimize Capabilities for Interdependency” requires competent and confident members of a team.

Competence is a result of both individual and institutional actions. While technology provides incredible capabilities, we still require leaders to conduct assessments at the lowest levels. We still need to train at individual level and certify at crew and unit levels. We also have a responsibility to become students of the Profession of Arms – committed to lifelong learning. Organizations have a responsibility to educate and train their team members. That means spending the time and resources to send individuals to career-enhancing courses; even in these austere times.

USASMDC/ARSTRAT is the Army force modernization proponent for Space and contributes to the Joint fight through our three core tasks: Providing trained and ready Space and

Missile Defense forces and capabilities in service to the Warfighter and the Nation (today), our Operations Function; Building future Space and Missile Defense forces (tomorrow), our Capability Development Function; and Researching, testing, and integrating Space, Missile Defense, cyber, directed energy, & related technologies (day-after-tomorrow), our Materiel Development Function.

The Army Space Cadre Symposium is an excellent opportunity to gain valuable information about our profession as well as to network with those who may become your teammates. I expect that the Army Space Cadre Symposium will provide an opportunity to enlighten and educate us about those gaps where “interdependencies” may fall a little short. Take advantage of the educational opportunity as we try to take a disciplined approach to addressing the complex challenges our Army faces.

SECURE THE HIGH GROUND

**The
Sun
Never
Sets on
USASMDC/
ARSTRAT**



BG Timothy R. Coffin

Deputy Commanding General for Operations USASMDC/ARSTRAT



Join the Conversation Partnering through

It is common to have partnerships in our business, personal, and professional lives—we just may not recognize these relationships as partnerships. Mostly they are a matter of being dependent, in a good way, upon another person or organization to some degree—a concept called interdependency. A few examples include cooperating with other drivers on the way to work, having groceries on the store shelves to purchase, and obeying common laws.

In the past, the Army has conducted Space operations independently because we could. Now, the United States has decided independent operation has some flaws in light of today's globalized economy, federal budget realities, and external national security pressures. Like most proposals, however, there are advantages and disadvantages to interdependency. I encourage you to be part of the discussion and evaluation of interdependency, especially the question of how do we go forward. It is important for Space and Missile Defense professionals to discuss in detail the strengths and weaknesses so they can identify the weaknesses and make them strengths.

To succeed, interdependency has to be deliberate, tailored, and managed. For example, today the American military operates in an interdependent manner in Afghanistan. This is achieved through an international coalition, interagency programs, and joint planning and execution. The interdependent focus has triggered many wins in the fight against terrorism.

Closer to home, the Army Space and Missile Defense Command/Army Forces Strategic Command has many partnerships with the other military services, allied nations, industry, and academic institutions. One prominent example is a memorandum of understanding with Australia for sharing information, operations, and funding on the Wideband Global Satellite Communications (SATCOM) system. Nine other nations, including NATO members, have

Conversation with Interdependency

**In simple terms,
interdependency in the
military Space arena means
establishing relationships
that integrate capabilities
from all forces to get the
job done.**

committed to various levels of participation in U.S. SATCOM programs.

On a long-term scale, the Army Space Professional Development Office is looking closely at where we can establish new presences for Functional Area 40 Space operations officers. The purpose is to provide the Army's perspective on Space-related capabilities within partnered organizations. This type of effort is the right kind of thinking on who should be a partner and how to go about it. Some possibilities for new FA40 assignments include the USASMDC/ARSTRAT Technical Center, Air Force Space Protection Office, Air Force Weapons School, and Aerospace Data Facility-Colorado at Buckley Air Force Base.

These existing relationships are good starting points. As we move into the future, get ready to see interdependency expand. The Space strategic documents issued by the White House, Department of Defense, and Army make it clear that the plan for the future calls for maximum effort in partnerships. USASMDC/ARSTRAT's interdependency is expected to grow and become more important. The command will be assessing what missions still can be done independently, and with whom we should be interdependent. These are critical questions.

Taking that "deep dive" is a big part of the overall equation. Some of the answers on how to go forward will come from experience, as the command continues and expands our partnerships. Other answers will come from our people, who are always the greatest source of ideas and efforts. We also can expect to learn from the partners through best practices, lessons learned, and interaction at every level.

I mentioned earlier that interdependency has advantages and disadvantages. Some of the advantages are that it can help get the job done faster, cheaper, and to a greater depth. Disadvantages come about when interdependency reduces our freedom of operations—is someone else's approval needed to begin a task or make a decision. Also, the Army still is having

trouble getting the balance right between the active forces, National Guard, and Army Reserve. That last item becomes important when forces need to be activated quickly. Instead of putting these issues on the shelf, we need to work through them to achieve solutions and opportunities.

The White House, DOD, and Army strategic Space documents have a lot of ways to describe the overall idea of interdependency. Making use of those terms is a good way of putting the discussion and thought process about interdependency at a conversational level. As you read the documents, look for and think about collaboration, cooperation, sharing, and exchanging. Committing yourself to the spirit, intent, purpose, and implementation of those principles is the starting point for building interdependency. The documents outlining strategic Space policies for the coming years include:

- National Space Policy of the United States of America (June 2010)
- National Security Space Strategy (January 2011)
- Sustaining U.S. Global Leadership: Priorities for 21st Century Defense (January 2012)
- Army Strategic Space Plan (2011)

The United States and its military are entering a new era. Even though demand for military capabilities will be high, funding for resources probably will decline. That circumstance is one reason for Army Space and Missile Defense professionals to embrace interdependency to some degree. Your willingness to say "yes" is a first step in a larger discussion and progression toward answering the questions of who, what, when, and how much for interdependency between our command and its partners.

Will you be part of the conversation?

**The
Sun
Never
Sets on
USASMDC/
ARSTRAT**



SPACE BLUEPRINT

Optimizing Capabilities for Interdependency

BY MIKE CONNOLLY, DIRECTOR, ARMY SPACE PROFESSIONAL DEVELOPMENT OFFICE

Choosing the theme for the annual Army Space Cadre Symposiums has always been a challenge because we want something that makes sense, is relatable to the audience and defensible. In breaking down this year's theme, consider a blue , print as a plan for the future, optimizing capabilities as doing more with less, and interdependency as exchanging what you have with others as they also share with you.

For us to continue our success into the future we must be able to do more with less and enhance our current capabilities by drawing on other service/organizations capabilities. We must also think through our transition from supporting an Army at War to supporting a peacetime Army. How can we retain and build on the successes we have achieved over the past several years?

Simple!

If only it were.

As the Army Space Personnel Development Office looks into the future, our blueprint begins with the completion of the Army Space Cadre Assessment. This document will evaluate current Space Cadre development and distribution against anticipated future requirements identified in the ongoing Space Capabilities Based Assessment (CBA). It will provide recommendations to ensure Army Space Cadre members complete necessary training and achieve appropriate distribution throughout the Army and the DOD community, to fully leverage Space capabilities and influence future structure, applications, and effects. This assessment is ongoing in a two phased approach.

- PHASE ONE has reviewed current policies, procedures, and systems that govern the Army Space Cadre. As a result of this review we have adopted changes in how we track cadre members and how we schedule them for Space training; along with recommendations on how we reward and recognize Space Cadre members. Additionally, we have formalized Space Certification levels for Space Cadre members along with developing professional development models for all categories of the Space cadre.
- PHASE TWO has initiated a call for Space Cadre billet nominations Army wide while assessing future requirements.

In the end, we will have a holistic review of the Space Cadre, approved by senior Army leadership and tied to the recently published Army Space White Paper and ongoing CBA.

In addition to the cadre assessment, the ASPDO, specifically the FA40 Personnel Development Office (PDO), is heavily involved in the Army's review of its Grade Plate Structure. The following bullets, as provided in the initial warning order, outline some of the issues and proposed actions that will be utilized to "mitigate the challenge."

- Over the past 10 years, the Army's Grade Structure has become significantly more senior.
- The requirement for more Senior Grades has grown disproportionately to the increase in lower grade personnel.
- Increased grade requirements adversely impact the potential health of the future force by reducing selectivity and competition, and forcing earlier promotions.
- A combination of actions is required to mitigate these grade plate challenges and to provide for a sustainable and affordable force:
 - Reduction of grade requirements
 - Increase in promotion selectivity and Time in Grade

The Army's intent is to rebalance its grade structure to ensure overall balance and health of the force through effective and efficient leader-to-led ratios, establishing appropriate quality as measured by both experience level in each grade and selectivity in promotion to the next higher grade, and documenting viable, sustainable, career paths for all Soldiers.

The FA40 PDO has been assigned a target of 20 FA40s Army-wide (15x O5; 5x O4) to roll back. The end state will lead to a future force of Space operations officer billets that include more opportunities for captains while aligning the Functional Area's grade plate pyramid.

As the PDO works toward meeting the requirements of the grade plate review, they remained engaged with organizations that seek additional FA40s, either as a plus-up or new requirement. Within the past few months, coordination has occurred to assign a FA40 to the Space Protection Program Office, the Air Force Weapons School, the ADF at Buckley Air Force Base Aerospace Data Facility, and the USASMDC/ARSTRAT Technical Center. All of these positions not only expand the ability of the functional area to ensure Space related capabilities are provided to the Warfighter, but they also solidify the community's ability to interact with other Services and agencies.

As we move into the future, the Space Cadre Assessment will serve as our blueprint; we will effectively and efficiently manage the talent of the Army's Space Cadre to meet all requirements; and will seek opportunities to embed Army Space operations officers into organizations and positions where they can not only provide organic Space capabilities to the Warfighter but also insure the capabilities of our sister services and agencies are fully realized.

Simple ...

Meet you on the objective.



Moving Forward *U.S. /Australian Partnership*

BY MIKE HOWARD,
USASMDC/ARSTRAT PUBLIC AFFAIRS



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In two historic and momentous ceremonies in Hawaii this summer, the U.S. Army Space community took another major step in building stronger international partnerships. Members of the Australian Defence Force received U.S. Army Basic Space Badges to recognize their work with American Soldiers in providing satellite communications capability to both countries' militaries.

It is the first time members of a foreign military have received the badge.

Three Australian service members received the badges at the Wideband Satellite Communications Operations Center operated by D Company, 53rd Signal Battalion, 1st Space Brigade near Wahiawa, Hawaii, where they work in concert with their U.S. compatriots in controlling satellite communications payload for both militaries. Later in the year by Regional SATCOM Support Center-Pacific, two other Australian service members who work in planning satellite communications requirements received the badges.

"We are truly entering a joint-Space environment with our Australian partners," said LTG Richard P. Formica, commanding general of U.S. Army Space and Missile Defense Command/Army Forces Strategic Command. In his comments Formica, who hosted both June 27 ceremonies, stressed the importance of recognizing Australians and other international partners with the Space Badge.

A recent Department of the Army Exception to Policy allows the awarding of Space Badges to international forces. Australian soldiers can now wear the badges on their uniforms in their U.S. posts, according to Bob Kyniston, plans officer for the Army Space Personnel Development Office at USASMDC/ARSTRAT.

"Additionally, a big thanks goes to the Head of Australian Defence Staff in Washington, D.C., Australian Army Major General Timothy McOwan, for granting local authority to our Australian soldiers to wear the Space badges," said Royal Australian Air Force Wing Commander Patrick J. Del Guidice, SATCOM operations officer for USASMDC/ARSTRAT.

"Until our ceremony, Australian service members had never been awarded or authorized to wear the Basic Space Badge on their uniforms which they can now proudly display," said CPT Becky Bort, D Company commander. "This groundbreaking decision is a significant milestone for the Wideband Global SATCOM project in which Australian service members are fully integrated in U.S. Army satellite control operations."

At D Company, nine Australian service members work side by side with their U.S. Army counterparts. The Australian service members perform the same duties and attend the same Space-professional development training as U.S. Soldiers. D Company provides continuous communications and satellite control of the Department of Defense Wideband Global SATCOM constellation for customers from tactical to strategic echelons.

"Or, to put it simply," Bort said, "they 'control the high ground' ensuring our two militaries continue to deliver the vital communications that are needed in order for them to complete their mission regardless of their location."

Similarly, within the RSSC-PAC, the two Australians there conduct SATCOM mission analysis for Satellite Access Requests, operational plans, orders, and directives, and help to develop Satellite Access Authorizations. They also monitor and report to the USASMDC/ARSTRAT chief information officer/G6 and the Australian Defence Network Operations Centre on WGS performance and in some instances, conduct Australian Eyes Only planning when formally requested by Australia.

The Space Badge traditionally has been awarded to Soldiers who successfully pass specific Space-related, prerequisite training and attain 12-months of experience in an Army Space cadre billet. This year, the U.S. Army's Deputy Chief of Staff G1 (personnel department) approved an exception to policy for awarding the Space Badge to military personnel from other nations.

Formica requested the exception in February.

"Currently, in accordance with international agreements, Australian military personnel are working side by side with their U.S. Army Space Cadre



Soldier counterparts performing the same duties and who are required to attend the same Space-professional development training.” Formica said in his request. “These foreign military personnel deserve full consideration for award of the Space Badge.”

The partnership between Australia and the U.S. Army is the result of a 2007 Memorandum of Understanding for Wideband Global SATCOM between the two nations that will endure until 2029. Del Guidice explained that the memorandum made Australia the major international partner with the United States in the WGS project. Australia will invest more than \$700 million (Australian dollars) over the life of the agreement and is committed to provide the resources needed to acquire and sustain a sixth WGS satellite. In exchange, Australia has “assured access” to the WGS constellation of six satellites, proportional to its investment, about 10-percent, in the overall program.

The partnership agreement also provided the opportunity for both countries to place Cooperative Project Personnel in each others’ systems. Consequently, there are now 13 Australian CPPs working throughout USASMDC/ARSTRAT. This number will grow to 15 in 2013 and remain at that number for the duration of the partnership.

Del Guidice emphasized that CPPs are not liai-

sons. Rather, similar to exchange personnel, they report directly to U.S. supervisors as team members. They are drawn from all four Australian services—navy, army, air force, and Australian public service. This long-term commitment aims to leverage the exposure gained by CPPs when they return to SATCOM-related positions in Australia. Their training and experience, including a fresh working knowledge of U.S. Space operations and Space force enhancement mission areas, will assist Australia to be a more effective and efficient partner to the United States in global SATCOM operations, Del Guidice said.

After being presented the badge and realizing the impact of being one of the first five Australian forces to receive it, Cpl. Clint N. Chilcott echoed Formica’s words: “The strategic relationship between our two countries comes from the individual, and this Space Badge helps to strengthen that relationship and bind us together even more.”

“What a big statement that is being made with the awarding of the Space Badges by USASMDC/ARSTRAT,” said Del Guidice. “This is huge. While Australia is in the midst of sorting out its own Space cadre organization, it is truly significant to have the symbol of Space professionalism and expertise for the U.S. Army pinned on the chests of our Australian service members who are now recognized as members of that elite group.”

LTG Richard P. Formica presents the Basic Army Space Badge to Cpl. Michael Thomas of the Royal Australian Army during a ceremony at Wahiawa, Hawaii. Thomas, Cpl. Clint Chilcott, and Cpl. David Boucaut of the Royal Australian Air Force are the first members of a foreign military to receive the badge. *Photo by Wing Commander Patrick Del Guidice*



Foreign Liaison Officer Program to Bed Down

BY 2ND LT. JASON GABRICK
50TH SPACE WING PUBLIC AFFAIRS

Construction is underway on a new work area for the Joint Functional Component Command for Integrated Missile Defense which will make Schriever Air Force Base home to two foreign officers; one from Germany and one from the Netherlands. With all of the base's mission partners, Schriever is already operating in a joint environment, but now, thanks to JFCC IMD, Schriever is going international.

U.S. Strategic Command directed the stand-up of JFCC IMD in 2005. Since then, the organization has been located at Schriever and housed in Missile Defense Agency facilities.

For almost eight years, JFCC IMD has been working on a campaign that brings Missile Defense representatives from foreign countries together. With 14 participating nations and 12 observing nations, the campaign, NIMBLE TITAN, has provided a platform for international partnerships and collaboration.

"It makes sense, within this mission area of Ballistic Missile Defense, to partner with our nation's allies," said John Wilkinson, deputy director of Allied Integration at JFCC IMD. "NIMBLE TITAN has helped to engage nations around the world in a campaign series of experiments and war games."

In the event that a ballistic missile is deployed against the United States or its allies, decisions regarding missile defense would need to be made immediately.

"You can have all the operational capability in the world to defend, but when a missile defense situation occurs, it's a fast fight. It occurs within minutes," said Wilkinson.

Because of this limited duration, continuous communication with U.S. allies is necessary to synchronize

missile defense capabilities and decision-making processes.

Now, Schriever will be home to JFCC IMD's newest program with German and Dutch officers set to arrive this fall. The Foreign Liaison Officer program is the nation's newest endeavor to strengthen those missile defense ties and Schriever has the unique opportunity to host that mission.

The 50th Space Wing Plans and Programs office organized a site survey last winter after which the bed down plan for JFCC IMD's FLO program was established.

"50 SW Plans and Programs, or XP, is the front door. When any new or existing mission or agency would like to build, use current facilities, or change their existing footprint on 50 SW property, they must come through our office. We are the facilitators who link 50 SW internal and external agencies together to ensure compliance with the Air Force Basing Process," said Devon Thomas, 50 SW Site Survey Beddown manager.

In the meantime, Team Schriever is being praised by JFCC IMD's leadership for the support it has received throughout the bed-down process.

"It has been a partnership with tremendous teamwork between mission support, civil engineering, the contracting squadron, security forces, and, I could go on and on," said Wilkinson. "Team Schriever has really stood up and has been willing to help us out. They have been open-minded and we really do appreciate that because of our unique mission."

JFCC IMD expects as the FLO program expands the two foreign officers scheduled to arrive this fall will only be the first of many at Schriever.



Space Law

Legal Aspects of Space Resources

“Space resources” can be broadly defined to include both tangible and intangible resources found in the Space environment (e.g., electromagnetic spectrum, orbital slots, mineral resources), as well as man-made resources that enable use of Space (e.g., spacecraft, launch capabilities, emerging technologies). Regardless of the form they may be found in, the utilization of all Space resources is directly impacted by trends in the strategic environment. The 2011 National Security Space Strategy identified three trends that are driving the current and future strategic environment – Space is becoming increasingly congested, contested, and competitive. These trends may cause or necessitate changes to the law.

The electromagnetic spectrum (EMS) is one Space resource that is already highly regulated, but the existing legal regime may be tested due to the increasing demand on this finite resource. Orbital slot allocation in GEO may face similar challenges. Orbital congestion (in GEO and other orbits), due both to increased use and Space debris, is another area that may drive legal change. Emerging technologies aimed at enabling removal of debris, or the servicing of

existing spacecraft, also may necessitate changes to the law before they can be widely and effectively used.

Law can also be used as a tool in a competitive environment. Recent discussions relating to export control reform and improvement of acquisition processes stem partly from the impact the current policies and processes are having on U.S. competitiveness, particularly in the commercial Space industry.

Finally, there has been an increasing commercial interest in Space resource exploitation, such as mining minerals on the moon or asteroids. As it currently stands, international Space law does not differentiate between government and commercial activity with respect to the utilization of Space resources; the use of natural resources is permitted. If commercial companies are successful in their endeavors, there may be some movement at the international level to refine existing Space law to address these activities. However, even if changes are not immediately made to existing law at the international level, it is likely that commercial exploitation of natural resources in Space will drive changes to domestic law in various countries.



Capt. Susan Trepczynski

▶ Chief, Space Law HQ AFSPC/JA

How long working Space Law issues?

Received LL.M. in space law from McGill University in 2007. Have been Chief of Space Law at HQ AFSPC/JA since August 2011.

What are some of the key parameters within Space Law that impact creating a Space Blueprint for the future - not just for the Services, but for DOD as a whole?

At the international level, Space law is really very permissive, meaning there are not a lot of activities that a State would want to pursue in Space that it cannot pursue. That is not to say there are no limitations; for example, there are limitations on the positioning of weapons of mass destruction in outer Space, and Space activities should not be conducted in a manner that causes interference with the Space activities of other nations. As new international rules and guidelines are proposed, we need to be cognizant of the impact these proposed new rules could have on DoD operations and the ability of the DoD to effectively meet national security goals.

What about challenges?

Space law should generally not be seen as creating challenges for creating a Space Blueprint – as long as we know what the law is, it is not difficult to fashion plans that fall within its boundaries. As mentioned above, international space law is currently fairly permissive. Working within domestic law boundaries may be more difficult (at least in the sense that there are more, and more detailed, domestic laws that we must comply with), but we do it every day. The real challenge

for a long term blueprint will be anticipating potential shifts in international laws and guidelines.

What do you see as the primary opportunities for the military to increase the concept of partnership in Space programs?

The 2011 National Security Space Strategy emphasizes the importance of working with our international allies to “explore the development of combined Space doctrine,” as well as expanding agreements to augment national security Space capabilities. The NSSS discusses increased interoperability, compatibility, and integration of partner nations, and some of these efforts have already begun. For example, Space Situational Awareness has been the subject of recent agreements with international partners, and is an area where we can expect to see more agreements in the future. We have also concluded agreements with our international allies in recent years for SATCOM capabilities (AEHF and WGS) and the resulting international partnerships appear to be beneficial for all involved.

What is your key message to the Army Space Professional in regard to Space Law?

Space law provides the rules of the game for Space professionals and a basic awareness of those rules can only be beneficial. With layers of national and international rules, regulations, and non-binding guidance, resolving legal issues can be complex. We don't expect Space professionals to resolve legal issues – we just want to provide them with a fundamental understanding of Space law so they can get a sense of when there may be a legal issue involved in something they are working on, and bring that issue to their legal counsel.

SATCOM



Satellite Communications

One of the Australian Defence Organization's most comprehensive ventures in SATCOM is a project with the United States Government under a Memorandum of Understanding for Wideband Global SATCOM (WGS). This agreement will grow over time to at least 9-plus high-capacity wideband communications satellites with geographically dispersed control stations across the globe. The WGS objective is to provide ample, reliable and sustainable wideband military SATCOM to the United States and its international partner nations such as Australia. On Nov. 14, 2007, Australia signed up to the WGS MOU with the United States and became the major international partner in the WGS project. Worth more than \$700 million (2007 dollars)

over the 23-year life of the MOU, Australia's commitment was to provide the resources needed to acquire and sustain a sixth WGS satellite (referred to as WGS-6). Some of this resource commitment was the provision of 16 Cooperative Project Personnel to the US to be embedded throughout USASMDC/ARTSRAT. For AUS, the MOU guaranteed "assured access" to the WGS constellation of six satellites, commensurate with its investment. The USA-AUS WGS MOU has also had an impact on the entire WGS project, designating what was once a US-only network as a network now releasable to Australia (ie, releasable to U.S. and Australian personnel) – something very unique and somewhat pre-credial in the USA SATCOM environment.



Wing Commander (WGCDR) Patrick J. Del Guidice

▶ SATCOM Division Operations Officer
USASMDC/ARSTRAT G6 SATCOM Division ~ 1.5 years

*How long have you
been working as a
Space Professional?*

I have been involved in Space on and off in my career, over 28 years. As an Electronics Engineer in the Royal Australian Air Force, I have had several jobs that could be considered to be Space Profession related. As a Space Professional, strictly speaking, I suspect I have had approximately 15 years of experience.

At present, there is no equivalent FA40 stream in Australia. This is something that is being considered, predominantly within the Air Force, and primarily related to ISR capabilities such as SBIRs. The communications aspect of Space capabilities (ie SATCOM) in Australia is the domain of the CIOG which stands separate as an organization from Air Force, Army or Navy. The problem for the Australian Defence Forces will be finding a balance in defining what it means to be a Space professional and how the services, jointly, will manage these competencies.

*How long have you served in
the Australian Army?*

Never. I am currently a Royal Australian Air Force officer and have been since October 1996 (over 15 years). I originally joined the Canadian Forces Air Force in Jun. 1984, then, when the opportunity presented itself, I laterally transferred to the RAAF at the O-3 level. So, at present, I am in my 28th year of military service across two Air Forces.

What was your original branch or equivalent ?

In Australia, branch would mean Air Force. In Canada I started out as an Aerospace Engineering Officer (AERE).

When I joined the RAAF, I became an Electronics Engineer (ELECTR).

*What do you see as the key ingredients of
the WGS partnership between Australia and
the United States — what makes it work?*

The key ingredients of the WGS partnership between Australia and the U.S. are the people and the professionalism and friendship they exercise in their interactions with each other. We are all interested in a successful partnership, and the challenges we face are often overcome by the bonds between us and the desire to make WGS a model-project of international partnerships. The partnership is further strengthened by regular interaction and exemplary team-work which occurs in every facet of the WGS project. Adding to this is the U.S.'s embedding of Australian Cooperative Project Personnel (CPP) who contribute daily to USASMDC/ARSTRAT's and USSTRATCOM's WGS objectives and by their very appearance, serve as a daily reminder of the importance of the partnership and the degree to which we remain committed to one another.

*Since the future includes the concept
of international partnerships within
our military strategy, what does that
mean in terms of a Space Blueprint?*

Whilst I cannot comment competently on the U.S. outlook, the concept of international partnerships in terms of a Space Blueprint is evidenced in the numerous Equal Value Exchange (EVE) and Non-EVE agreements we already have in place between Australia and the United States with regard to satellite communications (SATCOM).



For example, there are SATCOM efforts between Australia and the United States in the Narrowband arena with regards to UHF. On the Intelligence, Surveillance and Reconnaissance (ISR) side, there are Australians embedded in SBIRs operations areas at Buckley AFB and there is also an Australian embed in JFCC-Space at Vandenberg AFB. Recent efforts with regard to Combined Space Operations are also indicative of a burgeoning international partnerships towards blueprinting how we will continue to work effectively with each other in Space-related endeavors.

What can the international military Space community do to increase the concept of partnership in our programs?

From my perspective, we are making significant headway in this regard as evidenced by the integration of Australian CPPs under the WGS project within USASMDC/ARSTRAT and USSTRATCOM and the overall success of the WGS Program. However, there are still numerous challenges to overcome and perhaps one of the most obvious challenges lies in validating and/or challenging the NOFORN aspects of other Space/SATCOM programs. Please note, I am not dismissing things that are truly NOFORN since our sovereign secrets must remain safeguarded in the interests of our own national security; however, as an observation, there appears to be areas that are categorized as NOFORN that no longer need to be protected. So, in the interests of meeting U.S. Presidential direction to better share information with close allies, and also to “train as you intend to fight,” I am left wondering about who owns these problems and whether or not they are seeking a decisive resolution to these particular challenges. Therefore, in the interests of true partnership in

our programs, I wonder if the international military Space community should not be pushing harder to rescind Space/SATCOM programs that no longer require a NOFORN level of protection, better opening the way forward for stronger partnerships and international cooperation.

What is your key message to the Army Space Professional?

As an International Partner, I would offer that I sincerely value my country’s relationship with the United States of America and I am genuinely proud to be embedded in USASMDC/ARSTRAT working with Army Space Professionals. I would encourage my U.S. colleagues and fellow Space Professionals to continue to grasp the importance of International Partnerships and what they mean in the Strategic arena. The global environment is now more complex than it ever has been; we see significant economic ties between countries, significant stress between nations with different geo-political ideals, and information-exchange capabilities that have spawned massive changes in countries across the world—e.g. the Arab Spring. Now more than ever, our international partnerships have become the fabric of our global defensive posture and our reliance upon one another is not merely convenient—it is essential. Therefore, trust, integrity, loyalty and team work need to be at the forefront of our consideration whenever we are working together. My key message is that we continue to value each other and when possible, do everything we can to fortify the relationship and support each other. Together we need to “Secure the High Ground.”



U.S. Army Space and Missile Defense Command/Army Forces Strategic Command
THREE CORE TASKS: TODAY • TOMORROW • DAY AFTERTOMORROW

Space Professional Expertise



FIG 853.6
MULTI-CAPABILITY DIAGRAM

SPACE BLUEPRINT

+ Optimizing Space Capabilities 7.30 - 8.2

FA40s provide answers to questions concerning the future, capabilities and changing strategy.





MAJ Roger Pitt

*MUOS Launch Assistant Program Manager Legacy UHF SATCOM Operations Manager
PEO Space Systems, PMW 146 (Navy Communications Satellite Program Office) ~ 9 months*

FA40 EXPERIENCE 9 YEARS

ARMY EXPERIENCE 17 YEARS

ORIGINAL BRANCH

MILITARY INTELLIGENCE

What do you see as the biggest immediate challenge facing the Army Space Professional as a community in terms of having a Space Blueprint for the future?

Experts. . . Not just Space Operations Subject Matter Experts, but Space Acquisition Professionals (Career Space Acquisition Professionals), Space Technical Experts (Engineering, Physics and PhD level), Joint Space Experts, Interagency Space Experts, Space Policy Experts. This is what should drive the Space Cadre Community to two different space career tracks. It is not just having the experts, but developing them as well. It will also require us to manage the two tracks (Space Operations track and a Space Technical/Acquisitions track) separately and appropriately. Gen. (Ret.) Ed Anderson was quoted in the ASJ a while back as stating that the Space Acquisition Professional career field should be managed the same as the Medical Professional career field. This thought process should be considered for all of our Space Technical and Space Acquisition Experts; otherwise, the Army Space Professional will constantly be jumping from one space mission area to another, based on assignments, without being able to become an expert that can influence the space business positively in certain, very technical, space mission areas.

What about the broader picture of the Army and Department of Defense as a whole?

The space business is very complex and diverse. Each mission area within the United States Government space community has its own detailed plan of action and path forward (or Blueprint). It is very difficult for the Government as a whole to have a consolidated Space Blueprint. There is not one Executive Agent that controls all requirements and all funding for Space Capabilities; this makes it very difficult to have a Space Blueprint. Due to the fact that the Space Community crosses Inter-Service and Inter-Agency boundaries, it is absolutely necessary to find a way to optimize the use of the multitude of space capabilities that exist and are being developed, which, in many cases, are inherently mutually reliant upon each other. This in and of itself makes it very difficult to develop a Space Blueprint across the Army, especially since the Army is probably the biggest use of space capabilities, albeit, has very limited acquisition funding for the space-based capabilities on-orbit, but tries to take advantage of the capabilities after they are built and operational. A Military Intelligence Colonel used to brief that 5% of the Army Space Community (FA40, MI, and SC)

focuses on developing the right space capability before it reached orbit and 95% of the Army Space Community focuses on taking advantage of the space capabilities that some other service or agency developed and put into operations.

What can the Space community do to increase the concept of partnership in our programs?

Many of the FA40s are assigned in Joint, Inter-Service and Inter-Agency organizations; it is absolutely essential for the Army Space Cadre to embrace their position within these organizations. Don't be the guy that is introduced as "this is our Army guy," be the guy that is introduced as "this is [name], whom is a crucial part of our team." This is the only way that partnerships with other service programs and partnerships with other agency programs will be further developed. If this happens, these other programs will be able to em-

brace the Army Space Cadre and treat us as part of their team, which will enable an Army Voice to be heard in these Joint, Inter-Agency and Inter-Service programs.

What is your key message to the Army Space Professional?

As a junior Army Space Professional, be a sponge of Space Knowledge. Once you find a Space Mission Area that truly excites you, become the Expert in that Space Mission Area. Then pursue that Space Mission Area throughout your career. The Army Space Operations Officer can learn to do a job in a year, but it may take several years to be the expert in a specific Mission Area. I feel it is not until you become the expert that you can effectively help the Army and DoD Space Community to further develop the Space Blueprint that Optimizes capabilities that are mutually reliant upon each other.

For the Army and DoD as a whole we need to clearly communicate what we do in the Space Mission Area and why we are relevant to the Warfighter.

— LTC Timothy Dalton

LTC Timothy Dalton

Space Operations Planner
USSTRATCOM/J31 ~ 8 months

FA40 EXPERIENCE 7 YEARS

ARMY EXPERIENCE 17 YEARS

ORIGINAL BRANCH AIR DEFENSE ARTILLERY

What do you see as the biggest immediate challenge facing the Army Space Professional as a community in terms of having a Space Blueprint for the future?

I think that is just it. We need to make sure we have a blueprint for where we want to be in the near, mid, and long-term. Things may change over time but we must have a plan and vision to guide us as we continue to develop and improve our community.

What about the broader picture of the Army and Department of Defense as a whole?

For the Army and DoD as a whole we need to clearly communicate what we do in the Space Mission Area and why we are relevant to the Warfighter. We (Space Professionals) can provide a great deal of value at the operational and tactical levels and need to ensure leaders at the lowest levels understand how we can assist them and

provide them the ability to leverage capabilities we can bring to the fight.

What can the Space community do to increase the concept of partnership in our programs?

We need to make as much of our information as possible releasable at the lowest level possible. Too many times we classify information at levels that prevent us from sharing relevant information with our mission partners (military, government, and commercial).

What is your key message to the Army Space Professional?

Enjoy your profession and seek opportunities to learn and grow. We have such an exciting mission area with a diverse mission set. There are a tremendous amount of opportunities to learn and grow in our profession with each new assignment.



LTC James W. Crossley

*Army Advisory Element Chief and Director of Operations for Joint Ops
505th Command and Control Wing, USAF Warfare Center ~ 14 months*

FA40 EXPERIENCE 8 YEARS

ARMY EXPERIENCE 19 YEARS

ORIGINAL BRANCH ARMOR

What do you see as the biggest immediate challenge facing the Army Space Professional as a community in terms of having a Space Blueprint for the future?

The first and most important step is that we need to publish one. It does not have to be perfect... just get it out there and start the debate. The biggest challenge for the Army Space Professional community will be defining our role in military operations as we withdraw from our era of persistent conflict to an environment of training for conflict. We have demonstrated our worth through capabilities that may or may not be relevant in future conflicts. We have to focus the Space Blueprint on the threat in those future conflicts and demonstrate those capabilities in the training environment.

What about the broader picture of the Army and Department of Defense as a whole?

In the same sense as the question above, DoD as a whole needs to take a hard look at how Space

Operations are integrated into operational and strategic-level exercises. As we draw down from the state of persistent conflict, the services are starting to concentrate more on the exercises and wargames that involve major combat operations in fully contested domains. Service leaders want those contested domains to include not only Air, Land and Sea; but also Space and Cyber. We as Space Professionals must lead the way in defining what a contested Space domain looks like and accurately representing that in the training and exercise environment.

What can the Space community do to increase the concept of partnership in our programs?

This is a difficult task when talking about striking up partnerships with international partners other than the ones with which we are already traditionally aligned. Budget constraints and the further commercialization of space will force a change to this paradigm. The most logical step

is to expand our traditional space partnerships to include other space innovators inside NATO. The further commercialization of space is going to stress our current space technology proliferation rules to their limits. We have to work to update these rules, given the current global environment, to balance the right amount of national security to the necessary amount of free market needed for our commercial space industry to thrive.

What is your key message to the Army Space Professional?

For an FA40, be an Army field grade officer first, and a space professional second. What I mean by that is know how to lead and manage organizations at the field grade level and how to be a field grade staff officer and conduct MDMP, know how the Army functions at the operational-level of war and how it ingrates into the concept of joint operations. After all of that, then apply your space expertise to solve the unique challenges you find that the Army faces.



MAJ Brad Townsend

Support Engineer
NASA ~ 1 year

FA40 EXPERIENCE 4 YEARS ARMY EXPERIENCE 10 YEARS ORIGINAL BRANCH ARMOR

What do you see as the biggest immediate challenge facing the Army Space Professional as a community in terms of having a Space Blueprint for the future?

The biggest immediate challenge is transitioning from a focus on supporting an active war effort to a peacetime force. FA40 was still in its infancy and had yet to develop a stable role within the Army on 9/11. Supporting the ongoing wars in Iraq and Afghanistan has therefore defined FA40. The War on Terror has helped FA40 find a role for itself and develop into a large and robust community, but without a clear and evolving vision of how FA40s will continue to support the Army outside of those conflicts there is always a danger of losing focus.

What about the broader picture of the Army and Department of Defense as a whole?

Flexibility. Rapidly evolving technology will blur the lines between space, cyber and the Warfighter. Information is the ultimate battlefield enabler and its distribution and gathering is evolving to be both the nation's greatest strength and weakness. Space is a creator and enabler of that flow

of information to and from the Warfighter. In recognition of that, FA40, the Army and DoD need to focus on protecting that information bridge and recognizing the weakness in our potential opponents' information flow.

What can the Space community do to increase the concept of partnership in our programs?

As a battlefield enabler the Army space community is in a unique position to leverage capabilities not just within the Army but within the DoD and other federal agencies that have a role in space. This can be achieved by an increase in the number of joint and inter-governmental agency assignments by FA40s.

What is your key message to the Army Space Professional?

The space professional's job is to always consider how to leverage space, or space related capabilities to create or enable battlefield effects. As long as Army space continues to be the voice of the Warfighter in the larger space community the future is bright.

The Army Space vision is assured access to resilient and relevant space - enabled capabilities to ensure the Army can conduct operations around the world.

— LTC Edward Anderson



LTC Edward G. Anderson IV

Space Branch Chief
HQDA G-3/5, Space Division ~ 15 months

FA40 EXPERIENCE 8 YEARS ARMY EXPERIENCE 18 YEARS ORIGINAL BRANCH FIELD ARTILLERY

What do you see as the biggest immediate challenge facing the Army Space Professional as a community in terms of having a Space Blueprint for the future?

Implementing the Army Space Strategy during this period of declining budgets and downsizing. The Army Space Strategy was signed by the Secretary of the Army and the Chief of Staff in 2011. The Army Space vision is assured access to resilient and relevant space-enabled capabilities to ensure the Army can conduct operations around the world. To achieve this vision, the Under Secretary of the Army endorsed an Implementation Plan that will serve as the foundation for building Army 2020. Recognizing the gap between today and Army 2020, the Senior Army Space Council identified two tasks to bridge the gap. The first task is for TRADOC/ARCIC to lead the development of a strategic level DOTMLPF strategy for operating through a degraded space environment. The second task is for USASMDC/ARSTRAT to lead an effort to develop training plans and TTPs to mitigate the loss of space-based capabilities from the individual soldier to collective unit training.

What about the broader picture of the Army and Department of Defence as a whole?

Declining budget. As the Army adjusts to today's fiscal realities, there is no appetite for new starts or efforts that are perceived to be outside the Army's core competencies. The challenge is to create a narrative that demonstrates the Army's dependence on space - based capabilities and the implications when they are lost. The narrative has to be compelling enough to influence senior decision makers who are under a lot of pressure to reduce spending.

What is your key message to the Army Space Professional?

We know that space is becoming increasingly contested, congested, and competitive. To meet these challenges, the Army is implementing a space strategy with the vision of assured access to resilient and relevant space-enabled capabilities in support of unified land operations.



MAJ Charles Harmon

Assistant TRADOC Capabilities Manager for Network and Services, Signal Center of Excellence

HHC, 15th Signal Bde ~ 8 months

FA40 EXPERIENCE FIRST FA 40 POSITION ARMY EXPERIENCE 13 YEARS ORIGINAL BRANCH FIELD ARTILLERY

What do you see as the biggest immediate challenge facing the Army Space Professional as a community in terms of having a Space Blueprint for the future?

From my position and limited experience as a space professional, it is the ambiguity in the career path for the cadre. There are the main key and developmental jobs out there, but there are also several “one off” jobs like mine where an FA40 is working away from the main body of Army Space and ensuring all space professionals have a common operating picture of Army Space. I think that is a challenge.

What about the broader picture of the Army and Department of Defense as a whole?

I feel like in a resource constrained environment it is going to become ever tougher to advance Army requirements in space systems and the ground segment that controls/uses those systems. I think that as the DoD has to identify efficiencies in both acquisition and manning, we as a community are at risk of losing the amount of

input we have on the development of systems and development of concepts of operations if we do not maintain Army Space professionals in key joint billets with the Air Force.

What can the Space community do to increase the concept of partnership in our programs?

If by partnership, we mean coalition partners and allies, I think this is tough to accomplish due to the sensitivity of our systems, but can be done if we focus on operational capabilities that we as space professionals provide to the Warfighter. As we have seen recently, all major actions we take as a military include partnerships to some extent and being able to get a common operational picture across the force is critical for mission success and timeliness.

What is your key message to the Army Space Professional?

Never stop learning and enhancing your knowledge of our profession and more specifically how it can help the Warfighter fight and win our Nation’s wars.



LTC Larry J. Roberts

*Chief, Space and Missile Defense Functional Areas, Joint Training
Joint Staff, J7, Joint and Coalition Warfighting (JS, J7 JCW) ~ 22 months*

FA40 EXPERIENCE 8 YEARS

ARMY EXPERIENCE 28 YEARS

ORIGINAL BRANCH AIR DEFENSE ARTILLERY

What do you see as the biggest immediate challenge facing the Army Space Professional as a community in terms of having a Space Blueprint for the future?

The biggest immediate challenge facing the Army Space Professional as a community is our ability to put Army FA40s in Senior Level positions at the Combatant Command (CCMD) level and in key Joint assignments. Today, the Army FA40 is embedded throughout the Army, Corps and Division levels and the Army Space Support Element (SSE) professionals have done an outstanding job in institutionalizing space capabilities and effects across the Army. What is missing is the ability for the Space Community to establish a Space Integration Officer at the O5/O6 level on the Combatant Command staff. Why do I see this as important? Normally, the Space Coordination Authority (SCA) is delegated down to the CCMD, Air Component Commander (ACC), in where, a Director of Space Forces (DIRSPACEFOR or DS4) is established, along with a Deputy Director of Space Forces (DDS4) and AOC Space COD. But usually, there is great distance apart from where the CCMD is headquartered versus the ACC supporting and while the DS4 and his/her staff are doing great things, the information for planning, integration, synchronization and coordination does not have a single entry/exit point to the CCMD leadership and primary staff in order to institutionalize Space capabilities and effects.

What about the broader picture of the Army and the Department of Defense as a whole?

The Space domain is a Joint domain. In saying this, my viewpoint is that the Services need to work together more closely to develop a Joint way ahead with regards to the Space domain.

One of the more challenging areas I see is the ability of the Space Professional to educate Senior leaders, staff's and user's on Space capabilities, the effects the capabilities can provide and how organizations and units needing the space capabilities can request them. In support of this effort, the JS J7 JCW, Space and Missile Defense Functional Area is working to develop the next generation of academics for the Space domain to be incorporated into the Senior Leader Education Program for PINNACLE, CAPSTONE and KEYSTONE.

What can the Space community do to increase the concept of partnership in our programs?

First, I believe we need to have a truly "Joint" Space Symposium, similar to the Army Space Symposium. Included should be representation from all Joint, Service, and Agency partners with Space equities. The Space Community should even consider having a breakout session with our allies and coalition partners and nations. Second, there is a need for a formalized joint forum for Space Education and Training, similar to the Ballistic Missile Defense (BMD) Training and Education Group (BTEG) that is ongoing today.

What is your key message to the Army Space Professional?

It is truly the "Art of War" and not the "Science of War" in the Army FA40's ability to bring situational awareness of Space capabilities and effects to the leadership, staff and subordinates of the units and organizations they serve in and/or work with. As an FA40, your job is to develop, brief and educate all levels you come in contact with on Space capabilities and effects, and you must cover all aspects of the Space spectrum including joint, service and commercial capabilities.

From my foxhole on the Joint Staff, it appears the Department is wrestling with prioritizing and programming fiscally constrained resources as we adapt to the recently published Defense Strategic Guidance and as we continue to shape the future Joint Force.

— MAJ Matt Schreiber

MAJ Matt Schreiber

Chief, Space Based ISR Future Capabilities and Requirements Branch
Joint Staff/J28 ~ 2.5 years

FA40 EXPERIENCE 6 YEARS

ARMY EXPERIENCE 14 YEARS

ORIGINAL BRANCH ARMOR

What do you see as the biggest immediate challenge facing the Army Space Professional as a community in terms of having a Space Blueprint for the future?

I see two immediate challenges facing the Army Space Professional as a community in terms of having a Space Blueprint for the future. The first challenge is continuing to assess where are the best places to apply our most limited resource, our human capital-Army Space Professionals, across the Joint Force. Another immediate challenge facing the community is contributing to the ongoing debate on operating through a degraded Space environment.

What about the broader picture of the Army and Department of Defense as a whole?

I am currently postured to offer an opinion on the broader challenges of the Department vice the current challenges in the Army. From my foxhole on the Joint Staff, it appears the Department is wrestling with prioritizing and programming fiscally constrained resources as we adapt to the recently published Defense Strategic

Guidance and as we continue to shape the future Joint Force.

What can the Space community do to increase the concept of partnership in our programs?

From a generating force perspective, the Army Space community can continue to man positions external to the Army where they would have direct access and influence with other military services, defense agencies and other government and non-government agencies and organizations. The Space Community's operational force sees the successes and failures of existing and prior partnerships and should continue providing feedback to facilitate the improvement of existing partnerships or fostering new partnerships.

What is your key message to the Army Space Professional?

Take advantage of the wide range of job opportunities at the captain, major and lieutenant colonel ranks to "test the waters" and figure out what you like and where you can best contribute within the Army Space Community.

Dovetailed into this challenge is the continuing battle to train our force of FA40s to an appropriate level in satellite technologies, Army and Joint doctrine, and policy expertise.

COL Tom James

Deputy Director

USASMD/ARSTRAT Future Warfare Center ~ 2 months

FA40 EXPERIENCE 12 YEARS

ARMY EXPERIENCE 28 YEARS

ORIGINAL BRANCH AVIATION



What do you see as the biggest immediate challenge facing the Army Space Professional as a community in terms of having a Space Blueprint for the future?

The biggest challenge we have as a community when defining our roles and responsibilities is our ability to speak in terms of operational impact (or maybe better stated, our tendency not to). I think it is fairly common for FA40s to default to general discussion about how we support Army objectives, or become too focused on the technical aspects of what we do—geek speak. Every Space Operations officer must be able to discuss, at varying levels of classification, hard hitting examples of how we have supported commanders’ Warfighting Functions across the Space force enhancement and Space control mission areas. We have to know when and how to integrate those examples into discussions of what the FA40 community does and should do for the U.S. Army. This ability forms the relevant basis for serious discussion on our “blueprint” for the future. Space officers must master this skill.

Dovetailed into this challenge is the continuing battle to train our force of FA40s to an appropriate level in satellite technologies, Army and Joint doctrine, and policy expertise. It’s a tough business—the scope of satellite technologies we should master is extensive and growing; U.S. military doctrine remains a moving target; and policy processes and procedures (formal and informal) that allow our military and government to function are convoluted and confusing at best. But we need to spend the energy, time, and resources to ensure that we aggressively expand

I offer five key areas that I believe are critical to the Space Operations officer: operational relevance, self education, educating others, building relationships, and adhering to the Army Values.

— COL Tom James

our knowledge base in these areas. The training courses provided by USASMDC/ARSTRAT have come a long way in the last decade in terms of quality and capacity, but they cannot adequately cover all the topics needed. Much of what a Space Operations officer must know has to come from experience, self study, and discussion with other FA40s. basis for serious discussion on our “blueprint” for the future. Space officers must master this skill.

Education of those we support is another challenge. I’ve found staff sections, and sometimes commanders, that were initially leery of a Space officer offering assistance. The concerns ranged from dealing with something new and unknown to suspicions about actual value of the capabilities presented. Most of the time I’ve found that once explained in a way that clearly showed the value in terms of operational impact, and that the capabilities were complementary and not competitive to staff sections, I’ve had little trouble overcoming integration challenges. The key is to know what to educate on in both technical and operational language and to temper enthusiasm with practicality.

What can the Space community do to increase the concept of partnership in our programs?

The FA40 community is already engaged in numerous partnership efforts, too many to list here. We need to continue to search out areas that have obvious promise of synergy with other branches of the Army, other branches of the service, DoD, governmental, civilian, commercial, other nations (primarily their military), and academia. Our challenge is prioritizing these activities based on return on investment (time, energy, people, funding) and criticality to Army and DoD objectives. These priorities must be synchro-

nized and support overarching Army and DoD plans. Piecemealing partnership into our programs or taking a “hobby shop” approach is not only inefficient, it can become ineffective under the discipline of a resource-constrained environment. Efforts have to clearly show how they are linked to objectives and how they gain efficiencies and effectiveness.

What is your key message to the Army Space Professional?

I offer five key areas that I believe are critical to the Space Operations officer: operational relevance, self education, educating others, building relationships, and adhering to the Army Values. Relationship building is essential to success as an FA40, yet a task we don’t specifically train or focus discussion on. You have to be able to quickly gain and grow the trust and confidence of the commands and staffs with which you interact. This skill is important to all U.S. military officers, but it may be tougher to achieve for FA40s. Few branches have to routinely integrate with the exceptional breadth and variation of organizations and capabilities that confront the typical officer in an FA40 assignment. Relationship building is much more than gaining credibility through your technical and tactical skills. It is the real art, more than science, of imbuing professionalism in your actions and solving even tough group problems without alienating your counterparts and leaders.

The most important part of relationship building is rooted in the Army Values and reinforces trust and mutual respect. Numerous senior officers have taught me that if you ensure your words and actions are governed by the Army Values, everything else will work out. Everything we do as a profession of arms demands a foundation in these values.

SPACE BLUEPRINT

Optimizing Space Capabilities

PHOTOS BY DOTTIE WHITE





“The 1st Space Brigade's main effort is current operations, mainly performed by the WSOCS, JTAGS, and elements deployed to CENTCOM. We have two supporting efforts. First is exercises and training which prepare soldiers for current operations. The second is brigade modernization, which is a cooperative effort with FWC and the staff to fill DOTMLPF gaps across the brigade.”

COL James Meisinger
Commander 1st Space Brigade



CLOCKWISE FROM FAR LEFT – LTG Richard P. Formica, commanding general of USASMDC/ARSTRAT, addresses Army space professionals attending the 2012 Army Space Cadre Symposium in Colorado Springs, Colo. Formica leads a discussion on what it means to be a space professional in today's military environment. COL James Meisinger, commander of 1st Space Brigade, elaborates on his unit's operational focus. BG Tim Coffin, deputy commanding general for operations of USASMDC/ARSTRAT, and Mike Connolly, director of the Army Space Professional Development Office, listen in on the discussion. COL Andrew Weate, chief of staff to the Executive Agent for Space office, makes his point on the role of the Space Support Element. COL Tori Miralda, director for Combat Development in FWC, makes her notes during the symposium.



A SPACE BLUEPRINT FOR THE NATIONAL GUARD

BY BG ROBERT W. ENZENAUER,
COL DONALD P. LAUCIRICA, & LTC JESSE M. MOREHOUSE

The National Guard is strongly positioned to leverage Army Space capabilities. With more than 40 percent of all Army Space forces, the National Guard can and should utilize Space in support of domestic operations much as it has done during combat operations in Iraq and Afghanistan.¹ But deploying Space assets in support of domestic operations is a challenge for several reasons. First, unlike aviation, medical, and engineering assets, which are found in most states, National Guard Space forces are concentrated in Colorado. Second, Space capability is not sufficiently incorporated as part of Army doctrine and therefore is generally not integrated as part of state or regional domestic mission planning. Third, while the National Guard retains 40 percent of all Army Space formations and capability, the total number of Space cadre and equipment falls far short of what is required to support the wide range of domestic operations Space forces could support. As a result, other methods such as Space-enhanced product reach back must be exploited.

While these three challenges persist, they provide Space leadership the opportunity to signifi-

cantly impact the entire untapped mission set that will become increasingly important as the federally directed missions in the U.S. Central Command area of operations diminish in coming years. The purpose should be to ascertain the “terrain” of National Guard-specific missions and the dispersion of Space forces on that terrain. Next, based on this terrain, we propose a vision of how Space forces can begin to enhance those missions in ways similar to what we see in the federally directed missions.

The Terrain of National Guard Domestic Operations Missions

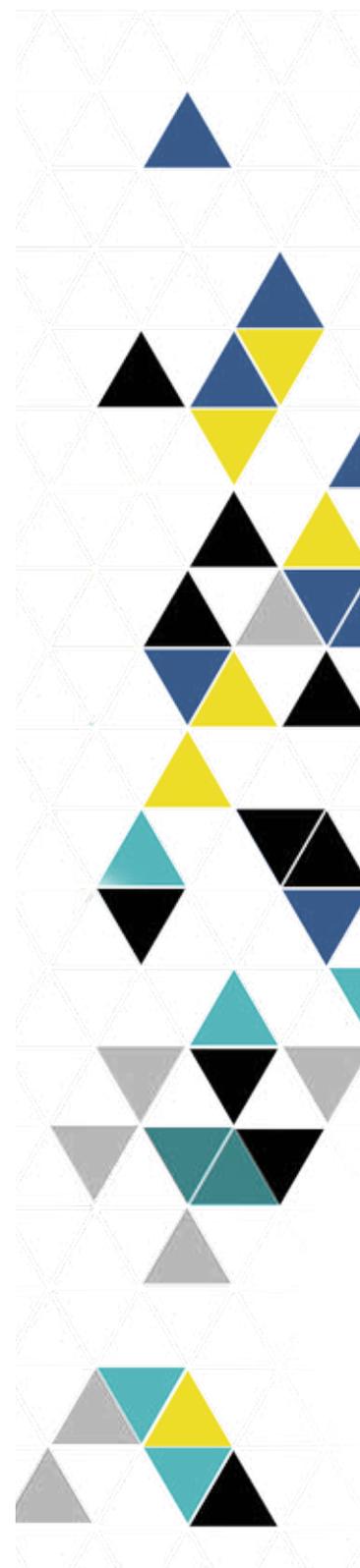
The National Guard of each state, by authority contained in the U.S. Constitution and Title 32 of the United States Code, provides military forces as directed by the governor, in support of civilian authorities. The National Guard, a unique state-based military organization funded by the federal government and trained in accordance with federal standards, is the only military force shared by the states and the federal government.² Title 32 of the United States Code provides National Guard

forces with certain special capabilities, unavailable to active component (Title 10) formations, notably the capacity to conduct limited law enforcement operations. State or territorial governors are authorized as dictated by their respective state constitutions and charters to call up and deploy their National Guard forces. Pay and benefits are determined and funded by the state.

Domestic operations are those activities within the confines of the United States and its territories in response to a natural or manmade disaster or event. The recent forest fires in New Mexico and Utah, the tornados that ravished Alabama and Missouri in 2011, and security and crowd control during the September 2009 G-20 world economic summit in Pittsburgh, Pa., are all good examples of natural and manmade disasters and events where National Guard formations were and other Title Ten formations could have been deployed. For most domestic operations the supported organization is the local civilian authority. The President of the United States, by authority of the Stafford Act, and in response to a

governor's request, can declare a national emergency, providing both the authority and funding required, federalizing National Guard formations, and mobilizing national assets.³ Once federalized, National Guard forces transition to the same status as Army and Army Reserve forces as described under Title 10 of the United States Code, and for all intensive purposes are no different in any way. National Guard members serving in Title 32 status remain under the command and control of the state even though the forces are used primarily for a federal purpose and are federally funded.⁴

Every state has Army or Air National Guard aviation, transportation, engineer, military police, and medical formations; units particularly suited for supporting domestic operations. With this distribution of units within each state, 95 percent of all domestic operations are resolved by state and local civilian authorities. Colorado, however, is the only state with National Guard Space formations, notably the 117th Space Battalion's 11 Army Space Support Teams (ARSST) and single Commercial





Imagery Team (CIT).⁵ If a state requires additional capability or a capability not found in its state, such as Space, the governor can request support through the Emergency Management Assistance Compact (EMAC). The EMAC is a congressionally approved interstate mutual aid compact that provides a legal structure by which states affected by an emergency may request assistance from other states. The requesting state is obligated to fund the use of requested assets.

The Distribution of Space Forces in the National Guard

The preponderance of operational active, Army Reserve, and National Guard Space forces are found in Colorado. The 117th Space Battalion is one of the two Space battalions in the Army's inventory. The National Guard's operational Space forces—11 ARSSTs and the CIT—are found only in the 117th Space Battalion. Spread across 14 other states are eight National Guard division-level Space Support Elements and eight fires brigade Space Support Officers (SSO) providing staff support to combat formations. One SSO is located in Colorado. BG Robert Enzenauer, the Assistant Adjutant General for Space and Missile Defense at the Colorado Army National Guard, and the National Space and Missile Branch at the National Guard Bureau provide national oversight and advocacy of Title 32 Space assets and capability. With the exception of Hurricane Katrina, National Guard ARSSTs and CITs have supported domestic operations in Colorado only, notably the 2008 Democratic National Convention in Denver. In 2012 the Colorado National Guard activated Space soldiers from the 217th Space Company who provided imagery and mapping products for the High Park wildfire near Fort Collins, Colo. The products provided the

incident commander with key information used to assess civilian evacuation routes and placement of traffic control points.

The Demand for Space Formations in Support of Domestic Operations

As state and federal leaders become more Space savvy, the demand for Space capability found in Colorado, particularly ARSSTs and CITs, will increase. To meet this demand, Space leadership, both active and National Guard, must partner to better understand the domestic operations terrain and develop strategy and policy required to distribute Space capability across state boundaries and throughout the nation. National Guard Space forces are ideally suited and habitually trained and ready to support domestic operations. However, the 2012 National Defense Authorization Act permits the involuntary activation of Title 10 Army Reserve ARSSTs and CITs, such as those found in the 3rd and 5th Space companies of the 1st Space Battalion, to provide assistance in the event of a major disaster or emergency.⁶ As necessary, the active component ARSSTs must have a role in any blueprint or strategy to support regional or national domestic operations.

Space & Domestic Operations Doctrine

While the demand for Space capability for domestic operations will certainly increase, the size of deployable Army Space formations will remain the same. Space and domestic operations doctrine must be improved to provide the basis for efficiently training and providing Space capability, either in the form of deployed forces or an equitable reach back to a centrally available source. In Field Manual 3-1, Space Support to Army Operations, a single paragraph describes Army Space support to civil authorities,



delineating the requirement to provide Space capabilities essential to the conduct of civil support missions, although limited to enhancing the military decision making process and assisting commanders.⁷ FM 3-28, Civil Support Operations, lists nine Space capabilities, notably Integrating Space Operations and providing Space Force Enhancement, but otherwise gives no method or guidance on how or where that Space capability is provided.⁸ Beyond this limited doctrine, there is little guidance describing how best to deploy Space capability in support of domestic operations. The domestic operations mission and supporting doctrine should similarly enhance Joint Task Forces in both combat and domestic operations, providing near-identical Space enhancement products and services.

A Space Blueprint

A successful “Space Blueprint” must provide solutions, focused on the necessary guidance and method for providing Army Space in support of domestic operations. Across the terrain, states and territories must understand Space capabilities. Mirroring the Title 10 force structure, state Joint Force headquarters should have a Functional Area 40 (FA40) Space operations officer on their staff. An FA40 at the state level would provide uniform, current, and timely Space advice on how best to request and utilize Space capabilities and assets. Second, the active, Reserve, and National Guard component leadership must update doctrine and develop Space policy and guidance, specifically cross-walked against component Space formations, determining how each component best supports domestic operations. Third,

considering the necessary draw downs in forces and the expected reductions in budget, Space leadership must develop a readily accessible reach back capability, providing efficient product and service throughput from the Army Space center of gravity in Colorado Springs back to states and territories.

No doubt adding Space cadre at each state headquarters and providing reach back Space capability will require additional FA40s and Space enablers. Priorities for adding qualification courses and sustainment training, product development, and delivery methods will impact already constrained budgets and resources. Space formations, cadres, and enablers have supplied valuable enhancement during America’s 11 years of persistent conflict in Southwest Asia, and in numerous state and national responses to natural disasters and manmade events. These same enhancements must be fully inculcated into domestic operations. The National Guard’s ability to efficiently provide Space capability in domestic operations serves the needs and interests of the United States and expands the relevancy of Army Space.

About the Authors

BG Robert W. Enzenauer is the Assistant Adjutant General for Space and Missile Defense in the Colorado Army National Guard. COL Donald P. Laucirica and LTC Jesse M. Morehouse are former commanders of the 117th Space Battalion, Colorado Army National Guard.

FOOTNOTES

- ¹ The total percentage of Army Space forces, for the purposes of this article, is the rounded percentage of Army Space Support Teams (ARSST) and Commercial Imagery Teams (CIT) found in the 117th Space Battalion as a percentage of total active component, Reserve, and National Guard formations. There are a total of 32 ARSSTs and CITs in the 1st and 117th Space battalions, of which 12 are National Guard. There are 16 additional Space cadre members in the eight infantry divisions and eight fires brigades of the National Guard.
- ² Timothy J. Lowenberg, “The Role of the National Guard in National Defense and Homeland Security,” National Guard Association of the United States, September 2005, pg. 1.
- ³ The Robert T. Stafford Disaster Relief and Emergency Assistance Act, Public Law 100-707, Nov. 23, 1988, amended the Disaster Relief Act of 1974, Public Law 93-288. This act constitutes the statutory authority for most federal disaster response activities especially as they pertain to the Federal Emergency Management Agency and FEMA programs.
- ⁴ “Military Support to Civil Authorities: The Role of the Department of Defense in Support of Homeland Defense” (Washington: Library of Congress, Federal Research Division, February 2007).
- ⁵ There are a number of U.S. Northern Command and Army North briefs that have used the 95 percent statistic. Considering the total response to all state emergencies it is a relatively acceptable statistic. Very few domestic response events have required Title 10 support.
- ⁶ National Defense Authorization Act for Fiscal Year 2012, Public Law 112-81, Dec. 31, 2011, sec. 515.
- ⁷ Field Manual 3-14, Space Support to Army Operations (Washington: Headquarters Department of the Army, January 2010), pg. 1-12.
- ⁸ Field Manual 3-28, Civil Support Operations (Washington: Headquarters Department of the Army, January 2010), pp. J-14 and J-15.

Fine Officer Honored

COLORADO SPRINGS, COLO. – Nearly 200 people attended a memorial for 2LT Christina Cornejo, who passed away July 13, 2012. She was a full-time Soldier in the Colorado Army National Guard’s 100th Missile Defense Brigade in Colorado Springs, Colo. A Guard member since 2006, she was previously assigned to the 117th Space Battalion.

“We are deeply saddened by the death of this fine officer,” said LTG Richard P. Formica, commanding general, U.S. Army Space and Missile Defense Command /Army Forces Strategic Command. “My wife Diane and I offer our sincerest condolences to the families and Soldiers, Civilians and Contractors who worked with LT Cornejo. I’m saddened by this terrible tragedy—but I’m proud of this ‘great’ brigade, its leaders and its Soldiers. We watched as the brigade Soldiers and leaders rallied to care for the family and to look after one another during this very difficult time. We watched the caring leadership of the brigade commander and command sergeant major, and others. As leaders and responsible employees of the entire command and the Army, we will continue to focus on taking care of people—serving our Soldiers, Civilians, and their Families.”

During the memorial, the brigade commander gave her equal praise.

“I will always remember her as an officer short in stature, but huge in heart, drive and attitude. She had a bright future ahead of her, nearly as bright as that smile that lit up the room every time she walked in,” remarked COL Gregory Bowen, Commander, 100th Missile Defense Brigade. “To Christina’s family and loved ones: Be proud she was an amazing woman who was a role model to those around her. She was respected and admired by everyone she worked with including me. If there were more Christina Cornejos in the Army it would be a better Army.” ■



IN MEMORY

2LT Christina Cornejo

Missile Defense Crew Member Space Support
100th Missile Defense Brigade 117th Space Battalion



The following background was provided in a Colorado National Guard press release prior to the memorial service.

2LT Cornejo enlisted in the Colorado Army National Guard on June 20, 2006. She attended the Unit Supply Specialist course in Fort Lee, Va., where she was selected as the distinguished honor graduate. In April 2009, she was selected to serve full-time as a battalion career counselor with the COARNG's Recruiting and Retention Battalion.

During the same period, she was selected to attend Officer Candidate School at the 168th Regiment, Regional Training Institute at Fort Carson, Colo. On Aug. 21, 2010, Officer Candidate Cornejo became the first female candidate in eight years to successfully complete the OCS program.

Cornejo gained her commission as a second lieutenant on May 4, 2011, and was selected to serve as an alternate fire direction center executive officer with the 100th Missile Defense Brigade.

Following graduation from Air Defense Artillery Basic Officer Leaders Course on Oct. 14, 2011, where she received four out of five superior marks and ranked in the top 20 percent of her class, she returned to Colorado Springs to attend the Ground-based Midcourse Defense Operator Course. Upon graduating on June 22, 2012, as the distinguished honor graduate, she was assigned to Missile Defense Element E Crew as the brigade liaison officer and began training as a current operations officer.

Her military awards and decorations include an Army Commendation Medal, an Army Achievement Medal with one oak leaf cluster, an Army Reserve Component Achievement Medal, a National Defense Serve Medal, and an Army Service Ribbon.

"It's always a sad day when we lose a fellow Guardsman," said MG Mike Edwards, commander of the Colorado National Guard. "Christina was not only a stellar Soldier, but a fantastic young leader who set the standard high. Her contribution to the Colorado National Guard will be truly missed, and we will do everything we can to support her family during this most difficult time."

The details of her death are under investigation by the Colorado Springs Police department. The Colorado National Guard will provide any assistance needed to the Colorado Springs Police Department. ■

Christina was not only a stellar Soldier, but a fantastic young leader





DEPUTY COMMANDING GENERAL FOR OPERATIONS

PINS ON STAR

By DJ Montoya, 1st Space Brigade

PETERSON AIR FORCE BASE, Colo.— COL Timothy R. Coffin, deputy commanding general for operations, U.S. Army Space and Missile Defense Command/Army Forces Strategic Command, was promoted to the rank of brigadier general June 6 during a ceremony in front of the command's operations headquarters on Peterson Air Force Base.

LTG Richard P. Formica, commanding general, USASMDC/ARSTRAT, and host for the ceremony stated, "We expect all of our leaders to be selfless servants."

"It is not about self, it is about serving our Army, our Soldiers, and their Families. That is especially true for our general officers. For the first time in Tim's career he will no longer be evaluated for technical and tactical competency," Formica continued. "Rather he will be assessed by his seniors, his peers, and most importantly his subordinates, by how selflessly he serves our nation—and by the manner in which he serves as part of a team. It is about selfless service and teamwork that define general officers.

"And he has got all of the right Space-related job experience to have earned the opportunity to get promoted today from colonel to brigadier general."

Before Coffin received his new rank and took the oath of office, he received two honors for past service. The first was the Defense Superior Service Medal while serving as director of operations and training, Joint Functional Component Command for Space, U.S. Strategic Command, from July 2008 to February 2011.

The second award was the Defense Meritorious Service

Medal for his service while assigned as chief of the U.S. Strategic Command Forward Integration Team, Kandahar Airfield, Afghanistan, from July 2010 to January 2011.

After the awards, Coffin's wife, Khristy, and daughter, April, pinned on his stars. Coffin also received the general offer ensemble of cap and belt. His father, Bernie, assisted with the uncasing of the one-star flag.

Coffin then addressed the crowd. "I am awestruck to be here today seeing the outpouring of congratulations that comes from both here and from other areas."

Turning to his father he said, "Dad, you have been to every promotion that I've had over the years. You set an example for me of leadership, of ability to make things happen, and of can-do-attitude. Thank you so much for being there."

Coffin assumed the position of USASMDC/ARSTRAT deputy commander for operations in March 2011. The position previously was held by BG Kurt Story.

Coffin originally came to USASMDC/ARSTRAT (then Army Space Command) in 1999. During his tenure he became the first commander of the 1st Space Battalion. Coffin left the command to work in other areas of Space, including the Future Warfare Center, until 2006 when he was selected to command the 1st Space Brigade. After leaving command, Coffin continued his work in the Space field, serving as director of operations, training, and exercises for the Joint Functional Component Command for Space, U.S. Strategic Command. ■



>> “Dad, you have been to every promotion that I’ve had over the years. You set an example for me of leadership, of ability to make things happen, and of can-do attitude. Thank you so much for being there.”

– BG Timothy R. Coffin



LTG Richard P. Formica, commanding general, U.S. Army Space and Missile Defense Command/Army Forces Strategic Command, administers the oath of office to newly promoted BG Timothy R. Coffin, deputy commanding general for operations, during a June 6 ceremony at the command’s operations headquarters on Peterson Air Force Base, Colo. *Photo by Robbie Lingley, 21st Space Wing.*



“EVR2EST focuses the response resources where they are needed. So instead of finding the fire when you get there, you already know that information going in so it helps get emergency personnel in the mind-set of coming up with a plan and executing that plan. EVR2EST helps support emergency agencies by providing aerial photos of grid searches to help first responders and workers. It also helps direct rescue crews to

Command Programs Find Hotspots in Colorado Fires

Story by Jason B. Cutshaw, USASMDC/ARSTRAT Public Affairs

REDSTONE ARSENAL, Ala.—As western states fought recent wildfires on the ground, a program developed by members of the U.S. Army Space and Missile Defense Command/Army Forces Strategic Command Future Warfare Center helped emergency agencies from above.

Local units provided support to wildfires in the western United States using Eagle Vision, a family of deployable, commercial satellite ground stations that collect and process near real-time optical and synthetic aperture radar imagery from commercial satellites. Commercial satellite imagery is processed to agencies using the Eagle Vision and Rover Responsive Exploitation of Space Products for Tactical Use (EVR2EST), an initiative developed by USASMDC/ARSTRAT.

Eagle Vision processed and distributed approximately 37 square miles of satellite imagery to Colorado fire response authorities. Members of the 226th Combat Communication Group in Huntsville, Ala., supported firefighters battling the Waldo Canyon and High Park fires in Colorado;

fires in New Mexico, Montana, and Wyoming; and floods in Minnesota and Wisconsin.

“It feels pretty rewarding to have a system we designed here at Redstone Arsenal that can affect people on the other side of the country,” said Justin Novak, of the Future Warfare Center’s Innovative Ventures Office. “It is also rewarding to achieve such a wide utility with this.”

Eagle Vision commercial imagery is unclassified, making it readily shareable and releasable to emergency and first responders. Officials can then use the satellite imagery to efficiently plan and prioritize their actions.

“EVR2EST focuses the response resources where they are needed,” Novak said. “So instead of finding the fire when you get there, you already know that information going in so it helps get emergency personnel in the mindset of coming up with a plan and executing that plan. EVR2EST helps support emergency agencies by providing aerial photos of grid searches to help first responders and workers. It also helps direct rescue crews to

ABOVE Mabery downs a tree with a chainsaw while cutting and clearing a fire line in the Mount Saint Francis area of Colorado Springs, Colo., June 28. Mabery and the rest of the firefighters with the Vandenberg Air Force Base, Calif., known as the Hot Shots came to Colorado Springs to aid in the fight against the Waldo Canyon fire.
Photo by Air Force Master Sgt. Jeremy LockBrad



onse resources where they are need-
e fire when you get there, you already
g in so it helps get emergency personnel
up with a plan and executing that plan.”

— Justin Novak, Future Warfare Center



hard-hit areas without them going to unaf-
fected areas or areas which already have
units there.

“It is a huge game-changer because
you typically need different software pack-
ages,” Novak said. “This way, you go to a
Web site, you pull up the image you want,
and it’s there.”

The Department of Defense has used
EVR2EST in the past for ongoing com-
bat operations and by national emergency
agencies to help with Hurricane Katrina,
Haiti relief efforts, the 2011 tornado out-
break, and many other events.

USASMDC/ARSTRAT also enabled
Friendly Force Tracking of some fire-
fighters and vehicles equipped with hand-
held devices. The command’s Mission
Management Center relayed tracking
reports to U.S. Northern Command, creat-
ing a display of crew locations. ■



Command’s Community Enriched by Tragedy

Story by Jason B. Cutshaw,
USASMDC/ARSTRAT Public Affairs

COLORADO SPRINGS, Colo.—Members of the
U.S. Army Space and Missile Defense Command/
Army Forces Strategic Command came together
to support each other, as well as their com-
munities, during the most destructive wildfire in
Colorado history.

More than 32,000 people evacuated the High
Park and Waldo Canyon neighborhoods near
Colorado Springs, Colo., in late June. While local,
state, and federal agencies provided firefighters,
fire engines, and aircraft in Colorado and other Western
states, members of USASMDC/ARSTRAT geared
up to support the community and three command
families who lost their homes.

“This tragedy touched us both personally and
professionally,” said BG Timothy R. Coffin, deputy
commanding general for operations. “We were
heartbroken to discover several members of the
command lost homes and properties. There were
also many of our families who were part of the
more than 32,000 evacuated from their homes as
firefighters risked their lives to bring the fire under
containment. The majority of our command fam-
ily, however, was touched by the disaster by their
own generosity in helping others. Everywhere you
went, not just in this command but throughout the
military and civilian community here, you heard
people telling of their experiences either volunteer-
ing in the community or opening their doors to dis-
placed friends and neighbors.

“It makes me tremendously proud: In the
midst of this personal uncertainty, the command

The scene from northern El Paso County as fire rapidly descended in to the city of Colorado Springs, CO. The Waldo Canyon Fire was the biggest wild fire in the cities history. Photo by Josh Janoski, Colorado Springs Resident



..... came together to provide necessary support to the community,” Coffin said.

Diane M. Paton, Plans and Programs Division chief in the G-6 office, lost her home during the wildfires. “I was very touched by the outpouring of support from the SMDC/ARSTRAT community,” Paton said. “The G-6, COL Benny J. Pokemire II, and BG Coffin were completely caring, understanding, and supportive, as was the chief of staff, COL Jimmy Jenkins III. They all reached out to me personally and ensured I would get the support I needed to get through this devastating event. Many of my colleagues brought gift cards and words of sympathy that warmed my heart immensely.

“The Colorado Springs community was also remarkably supportive,” she added. “Friends, acquaintances, and even strangers offered assistance, heartfelt words of love and concern, and often a place to live. When we were given one morning to visit our neighborhood, firemen helped me dig in the rubble for any piece of my former world. They brought me sunscreen, and a city policeman brought me a bottle of water. My eyes well up now just recalling it.”

A command employee who is a volunteer firefighter spent five straight nights at his local fire station, freeing up personnel and equipment to combat the wildfire.

“I have not personally seen a wildland fire this big, ever,” said Kevin R. Janes, a force development analyst in the USASMDC/ARSTRAT G-37 Force Management Office. “I and other volunteers provided additional staffing to our department, which in turn enabled our department to send apparatus and personnel forward, and they actively provided fire suppression and wild land mitigation measures. Even though there were more than 1,000 firefighters deployed to

fight the Waldo Canyon fire, day to day operations still had to continue at the 20 stations in Colorado Springs and the numerous cities and towns throughout the county.”

Janes talked about how it feels to be able to help support his fellow co-workers, as well as his community by being a volunteer firefighter.

“Being a Soldier and being an Army civilian is all about service. The fire service is that way also, in that we take care of each other,” he said. “One minute we are providing service to another, and who knows when the moment will come in which we might need service or assistance in return. It’s very rewarding and satisfying to know that, despite differences in personal preferences or beliefs, when the need arises, we are there for each other. I loved my career as a Soldier, and I saw that as direct service to my country, whereas now, as a volunteer firefighter, I am fortunate to provide direct service to my community.”

Paton said everyone should have an evacuation plan for future contingencies and never to take anything for granted.

“All I can tell others is take an evacuation seriously and pack like you will never return,” she said. “Have checklists and know where everything you need is stored. Buy a fireproof safe and have the key stored with your evacuation checklist.

“In the face of my profound grief, the remarkable, nonstop love and support of my family and friends and my friends’ family and friends sustains me,” she added. “They are a bright spot during these dark days. The goodness of humankind surpassed my wildest imagination, and I find joy in that. I’m eternally grateful for the amazing people in my life helping me through this.” ■

LEMV TAKES FLIGHT

USASMDC/ARSTRAT Public Affairs

90 min.
Flight

REDSTONE ARSENAL, Ala. - The U.S. Army Space and Missile Defense Command/Army Forces Strategic Command conducted the first flight test of the Long Endurance Multi-Intelligence Vehicle, or LEMV, today at Joint Base McGuire-Dix-Lakehurst, N.J. The hybrid air vehicle was airborne for more than 90 minutes during its initial flight.

The first flight primary objective was to perform a safe launch and recovery with a secondary objective to verify the flight control system operation. Additional first flight objectives included airworthiness testing and demonstration, and system level performance verification. All objectives were met during the first flight.

The LEMV is an optionally manned or unmanned air vehicle which was manned during this flight. Additional manned flights will resume following a planned and very detailed inspection of the vehicle. Northrop Grumman, the prime contractor for LEMV, is working with their international partner Hybrid Air Vehicle of the United Kingdom as a major subcontractor. ■



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