

SPOTLIGHT ON THE CUSTOMER

Developing and Fielding Unrivaled Space and Missile Capabilities:

An Interview with Lt. Gen. Michael Hamel, U.S. Air Force,
Commander, Air Force Space and Missile Systems Center

CUSTOMER FOCUS

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The Defense Contract Management Agency (DCMA) has a long history of collaboration with the Air Force Space and Missile Systems Center (SMC) at Los Angeles Air Force Base, Calif. To learn more about the SMC and how DCMA supports its mission, we spoke with the SMC commander, Air Force Lt. Gen. Michael A. Hamel. With more than 6,500 employees Nationwide and an annual budget in excess of \$10 billion, Lt. Gen. Hamel is responsible for managing the research, design, development, acquisition and sustainment of space and missile systems, launch, command and control, and operational satellite systems.

(Background) SMC successfully flew out the final Titan IV launch vehicle, which lifted off from Vandenberg Air Force Base, Calif., Oct. 19, 2005. (Photo by Pat Corkery, courtesy of Lockheed Martin)

“SMC’s mission is to develop, acquire, field and sustain unrivaled space and missile capabilities for the joint warfighter and the Nation.”

Communicator (C): Please provide us with a brief overview of the SMC and its role in the Air Force’s overall mission.

Lt. Gen. Hamel (LGH): Our mission is to develop, acquire, field and sustain unrivaled space and missile capabilities for the joint warfighter and the Nation. SMC is an integrated team of some 6,000 military, civilian, federally-funded research and development centers (FFRDCs), as well as other specialized systems engineering and technical assistance contractors responsible for the development of Air Force space capabilities — striving to provide an integrated suite of capabilities from space for the joint warfighter. ... The Air Force has been designated the DoD [Department of Defense] executive agent for space, and SMC has a critical role to develop, coordinate and integrate plans and programs to provide operational space force capabilities. ... We have increased from 16 programs in 1992 to more than 30 programs today. The annual budget has grown from about \$4 billion to more than \$8 billion.

C: What are your goals and objectives for SMC? How does DCMA help you to meet these goals and objectives?

LGH: Mission success is job number one. To do this effectively and consistently, our key objectives are focused on people, processes, partnering with industry and accountability to deliver on what we promise. We’ve got to deliver integrated mission solutions, which means we have to think about the space enterprise and how all the various systems fit together for our customers across the space enterprise in DoD. We must understand our technical baselines, what it will cost to produce those, and then hold

to the budget, [and] we must ensure stability so we’re not in continuous re-planning and re-budgeting.

DCMA provides multidisciplinary support to programs within our space portfolio through negotiated Memoranda of Agreement (MOA). These MOAs define our desired outcomes for DCMA support based on assessed risk and program need. It’s critical we get down to the details with DCMA in these delegations to assure we’re each working on the right things and to avoid duplication of effort that neither of us can afford. I see it as very positive that DCMA is working to put performance-based MOAs with measurable outcomes in place on all our programs. Metrics really do matter and help us get a pulse on whether or not we’re getting the improved results we know we need. What’s also important is that SMC and DCMA cultivate professional working relationships that encourage candid and timely communication and that we not rely solely on routine reporting to communicate progress or, especially, problems.

As SMC deals with the long-term challenge of getting the people part of our equation right, developing strategies to increase our numbers and capabilities, we look to DCMA to be our “eyes and ears” within contractor facilities, providing SMC with your unique insights gained by having “boots on the ground” at virtually every major contractor location doing business with SMC. We need DCMA’s support in both our business and technical processes. In the business area, we need DCMA to provide quality contract administration, negotiate rates and factors, provide pricing support to our source selections, evaluate contractor proposals,

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ensure contractor payment and assure timely contract closeout. On the technical side, DCMA has worked with us in the revitalization of specifications and standards by ensuring contractor compliance and providing support in quality and product assurance and industrial base assessment and analysis.

C: How do you define good customer service? Is DCMA meeting your needs and expectations?

LGH: The three pillars of success — people, processes and partnerships with industry — are integral to good customer service and are defined by the promises made to our Nation and to the Air Force to accomplish our mission — delivering unrivaled space and missile systems to the joint warfighter and to our Nation.

One of the things that happened over the past decade is the government became more passive observers in the space development and acquisition process. We lost sight of our responsibilities and to whom we’re accountable. From the senior-most program director down to the young project officers, we are re-instilling the sense, ‘I own a particular deliverable or a particular set of products or processes.’ At SMC we insist people be accountable for various aspects of delivery and test results. Good customer service means being accountable, following through on commitments and ensuring process discipline that will, in an orderly and predictable manner, produce the systems that we’ve come to expect. We cannot sustain steady progress and improvement unless we can measure how we’re progressing, so metrics are going to be a huge part of this equation. For DCMA, MOAs based on customer outcomes with measurable criteria are key to meeting SMC needs and expectations. Commitment to goals and follow-through should be the focus.

C: Did you work with DCMA before you became the SMC commander?

LGH: Yes, I worked with DCMA in previous space acquisition assignments at SMC. We depended heavily on in-plant DCMA personnel to support administrative and technical management tasks and to be our SPO “eyes and ears” in the plant.

C: Given the trend today toward programmatic cost overruns and schedule delays, what are SMC’s key objectives and strategies to ensure space acquisition is on track?

LGH: You don’t get two chances to do it right in the space business. We didn’t lose the recipe, we just stopped following it. We’re taking comprehensive steps to fix it. This is hard work. It is rocket science.

We are bringing on board new systems while sustaining existing systems — simultaneously “transforming” both our systems and the way we do business. We really are going back to basics and using lessons learned to ensure repeatable, predictable results in all we do. We are re-instilling the process and discipline that will, in an orderly and predictable manner, produce the systems that we’ve come to expect. We’re reinvigorating our systems engineering process and developing more of a process-oriented culture in terms of specifications and standards. This will ensure we have a systematic means for the engineering, design, manufacturing and integration. One of the great achievements over the past several years under [former undersecretary of the Air Force] Mr. [Peter] Teets’ leadership is an improved acquisition development review process codified in a new policy, as well as new technical independent program assessment processes. This will give

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us much earlier insights into the maturity of designs as well as the readiness of industry to produce the systems we need.

The reality is a number of our programs were flawed from inception, and you can't "unflaw" a program five years after its start. So, part of what we are doing is to retrofit contracts to ensure we have engineering baselines, failure mode and effects analysis, etc., to establish the technical integrity of the designs. For example, we've created the new Space Quality Improvement Council involving not only the Department of Defense, but also the National Reconnaissance Office as well as the civil space agencies to work collaboratively in reestablishing standards and specifications. I think one of the great news stories is we're bringing back many of these "mil" [military] standards and "mil" specifications. This is not being done through government mandates but rather through a collaborative consensus-building mechanism with industry. We're all operating with the same set of understandings and mutual expectations.

As we have more large systems integration, we have to ensure prime contractors understand how to oversee subcontractors and don't lose fundamental technical skills. We're also getting more active government presence in contractor plants so we understand and can anticipate how we get in front of problems before we have to react to them.

Stability is absolutely critical. We'll be working hard to get more flexibility and more cost, schedule and performance reserves so we don't continuously find ourselves marching back to Washington to ask for relief or changes to programs. This is a time when we are flying out

some programs and maturing the technology for the next generation of satellites and launch vehicles while, at the same time, continuing to utilize our existing programs to provide cutting-edge capabilities to the joint warfighter and to our Nation. We will continue to build on our success. We currently have had 44 successful launches in a row. Recently, we successfully flew out the final Titan IV launch vehicle and launched the final Military Satellite and Tactical Relay System (Milstar) and Defense Satellite Communications System satellites. Our success rate is 11 for 11 evolved expendable launch vehicle-class missions — seven Atlas Vs and four Delta IVs. We have the healthiest missile warning constellation ever. We have 100 percent mission performance in our Launch Range program and have delivered more than \$250 million in launch range capability in the past 18 months. Our GPS [global positioning system] program had a 15 percent to 40 percent improvement through the Accuracy Improvement Program, and we just launched the first modernized GPS IIR satellite.

C: In a time of significant DoD personnel reductions, as SMC's commander, what steps have you taken to develop and retain a high-caliber workforce?

LGH: Our challenge is to attract and maintain the best and the brightest. If you take a

(Right) Air Force Lt. Gen. Michael A. Hamel, Space and Missile Systems Center commander, Air Force Space Command, Los Angeles Air Force Base, Calif.



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look across SMC and how we do business in our culture, we’re really comprised of a mixed workforce of military and civilian FFRDCs and specialized systems engineering and technical assistance contractors. We’re taking some very concrete steps to try to re-instill their capabilities across the board. Air Force Space Command has created a Space Professional Development Strategy aimed at getting our military and civilian workforce depth of technical capabilities and breadth of experience across operations, development and acquisition. We’re doing this through improved education and training — advanced degrees sponsored with the Air Force Institute of Technology and the Naval Postgraduate School. Likewise, at SMC, we have a very ambitious program largely supported by the Aerospace Corporation to give our young officers the right kind of skills to understand the medium of space and the systems and capabilities we produce.

We’re focusing on how we not only get increased capability but also ensure we put the right people on the right kind of tasks and teams. We’re aggressively working to try to get more flexibility by relief from congressionally mandated ceilings on things such as FFRDCs. Getting the “people” part of the equation is a long-term challenge, but I think we are doing a lot of the right things in terms of building the fundamental skills and teams for this process.

Also, we’ve stabilized tours of duty at SMC, so now the standard is four-year assignments for our military officers. Now they not only

get the experience but also have to live with the consequences of their decisions. So, stability has become a key ingredient.

C: Gen. Lance Lord, commander, Air Force Space Command, has challenged SMC to become a model of space acquisition excellence across DoD. What is your strategy for delivering on this challenge?

LGH: Our strategies to deliver on Gen. Lord’s challenge are: realigning to improve processes, discipline, horizontal integration and enterprise-wide solutions; rebuilding the space acquisition workforce — military, civilian, FFRDC and support contractors; and reestablishing core capabilities — engineering, cost estimating, specs/standards, education/training, program control, integration and test, hands-on engagement and teamwork.

It has taken a number of years to get us to where we are ... and we have to be able to show we’re producing results not just measuring people or budget inputs. Getting measurable progress points in terms of performance, design, testing and delivery of satellite systems is critical. I think we’ve made a lot of progress in achieving this goal of delivering what we promise. We’re making comprehensive efforts across the board in people, processes, “programmatics,” discipline and rigor.

C: In the Dec. 22 issue of *Astro News*, SMC’s publication, you noted that 2005 was a year of transition — in what ways did SMC “re-vector [itself] to meet the challenges of the future”?

(Left) This artist rendition shows a Global Positioning System (GPS) Block IIR-M satellite. This first “modernized” GPS Block IIR satellite was launched Sept. 25, 2005. Eight Block IIR satellites are being modernized to radiate the new military (M-Code) signal on both the L1 and L2 channels as well as the more robust civil signal (L2C) on the L2 channel. The L2C capability will provide dual frequency capability to all equipped civil users, allowing correction of ionospheric transmission errors, which improves resistance to interference and increases accuracy. The M-Code signal will provide warfighters with a more robust jam-resistant signal, enabling effective munitions targeting in stressed environments. (Image courtesy of Lockheed Martin)



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LGH: SMC is forced to operate in a very challenging business environment ... and contend with a graying workforce, fewer “blue suit” engineers and caps on FFRDC levels that will only increase our dependence on systems engineering and technical assistance contractors in the future. This means SMC must be creative in order to continue our track record of excellence and the launch of successful programs.

We must continue to transform ourselves into a more efficient and product-driven organization that can successfully meet the challenges of today and of the future to ensure the long-term success of the Center by: implementing the essential steps to rebuild space development/acquisition excellence in partnership with the Aerospace Corporation; providing capabilities today and tomorrow to meet the needs of the joint warfighter; delivering systems “birthed” during acquisition reform; horizontally integrating space systems into joint warfighting capabilities; and reinstalling an innovation and transformation mindset into space development and acquisition.

We are improving space acquisition processes by implementing [a] back-to-basics strategy. We have published updated engineering/acquisition handbooks capturing critical best practices, lessons learned and processes, giving program managers key information/techniques needed for ensuring program success. We are also taking steps to enforce specs and standards. The Space Quality Improvement Council — SMC, National Reconnaissance Office, Aerospace and industry — established a forum on industry/government specs and standards to provide recommendations on how to improve contractual guidance for ongoing and future

programs. We continually evaluate current processes and compliance to processes.

C: Do you see DCMA’s realignment affecting SMC?

LGH: We should always be looking for ways to improve support to customers. The shift in thinking from workload processing geographically to thinking about customer outcomes enterprise-wide makes sense, and I know it was based on a thorough study through your 360-degree assessment a few years ago. With DCMA’s increased focus on supporting the customer, I see only positives relative to your contributions to SMC programs and initiatives. Your challenge, and ours, is managing your limited resources in such a way as to maximize your support to the customer in key areas.

C: Are there limitations to DCMA services that if corrected would allow us to be of greater benefit to you?

LGH: DCMA and SMC have both been criticized for weaknesses in [several areas]. Part of the cause is due to resource constraints we both share; part can be attributed to a need for improvements in education and training. With the turnover at SMC of military and, to a lesser degree, civilian personnel, I need DCMA to continually educate my workforce on what you do and how you can help. This discussion needs to take place at all levels of our organization and in a variety of forums, from functional interactions to program integrator discussions with program managers, to customer liaison briefings and continual outreach as well as through senior leadership engagement with SMC senior leadership.

(Right) An Air Force Delta II rocket carrying a Global Positioning System satellite launched from Cape Canaveral, Fla., Sept. 25, 2005, marking the launch of the first “modernized” GPS Block IIR satellite into orbit providing expanded capabilities for military and civil users. (Photo by Carleton Baillie, courtesy of The Boeing Company)

