Defense AT&L

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The Mission and the Environment

Defense AT&L interviews
Philip W. Grone
DUSD for Installations and Environment

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Receipt and Acceptance Process

And by popular demand,
our second graphic article

The Danger of Caution

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DEPARTMENTS

The Mission and the Environment

Keeping the Balance in the Big Picture

*Philip W. Grone, Deputy Under Secretary of Defense
for Installations and Environment*

Philip W. Grone was appointed as the deputy under secretary of defense for installations and environment (I&E) in November 2004. He has management and oversight responsibilities for military installations worldwide, with a land area covering over 50,000 square miles and containing 577,000 buildings and structures valued at more than $712 billion. Grone talked with *Defense AT&L* in August about various aspects of his mission, including base realignment and closure and integrating installations and environmental considerations into the weapons acquisition process.

Q

You've served as the deputy under secretary of defense for installations and environment since November 2004 and as that post's principal assistant deputy since September 2001. Can we start with an overview of your major roles and responsibilities?

A

The Department of Defense administers one of the largest global, specialized real property portfolios, with a land area covering over 50,000 square miles and containing 577,000 buildings and structures valued at

more then $712 billion. Within our facilities management responsibilities, this office oversees the development of installation capabilities, programs, and budgets; base realignment and closure; the privatization of military housing; installation energy management; competitive sourcing; and integration of installations and environmental needs into the weapons acquisition process.

Additionally, we have responsibility for environmental management; conservation of natural and cultural resources; environmental research and technology; fire protection; safety and occupational health; and explosives safety. I also have the privilege to serve as the Department's representative to the Federal Real Property Council, which consists of the senior interagency property management team; and I'm the secretary of defense's designee to the Advisory Council on Historic Preservation.

The Department has recognized more than 120 local redevelopment authorities, or LRAs, that are responsible for creating a redevelopment plan for property made available for civilian reuse as a result of BRAC.

Q

A major effort during your tenure has been the 2005 BRAC—base realignment and closure. The changes were necessary to support ongoing force transformation, improve the joint utilization of assets, and—in your own words—"to convert waste to warfighting." What results have you realized to date from this major initiative?

A

With congressional authorization, the secretary of defense initiated the 2005 BRAC process to rationalize the base infrastructure within the United States in support of the Department's long-term strategic capabilities. The Department's goals included transforming the current and future force and its support systems to meet new threats; eliminating excess physical capacity; rationalizing the base infrastructure to the new defense strategy; maximizing both warfighting capability and efficiency; and examining opportunities for joint activities.

The 2005 BRAC included over 200 closures and realignment recommendations involving more than 800 installations throughout the United States. This BRAC round consisted of 24 major closures (that is, installations with a plant replacement value in excess of $100 million) and 24 major realignments (400 or more net reduction of military and civilian personnel).

We estimate it will cost approximately $31 billion to implement these recommendations, and we estimate we will save approximately $4 billion annually after 2011. The annual recurring savings for this BRAC round is estimated to be twice as large as any previous round and almost as much as all four past rounds combined.

The Department is on track to implement all realignments and closures by the statutory deadline of Sept. 15, 2011.

A key element of BRAC involves the disposal of assets and community redevelopment. The Department has recognized more than 120 local redevelopment authorities, or LRAs, that are responsible for creating a redevelopment plan for property made available for civilian reuse as a result of BRAC and for directing implementation of the plan. The majority of these communities, with assistance from the Office of Economic Adjustment, are presently working to develop a consensus for redevelopment that reflects the specific market forces, public-facility and Service needs, and private sector circumstances at each location, and to gauge local homeless and community economic development interests in those properties. At the same time, efforts are being made between the LRAs and the military departments to link local civilian redevelopment activities with DoD's environmental and property disposal efforts, including any necessary environmental remediation.

Q

This round of BRAC also looked specifically at the industrial activities of the Department on a joint basis. All aspects—from medical functions to supply and storage—were assessed from a joint perspective to help provide the most efficient military structure. How is this focus different from previous BRAC decisions?

A

The Department's BRAC process for 2005 created an analytic framework and a review and oversight process that were substantially strengthened from those in previous rounds. The Department conducted the process with an eye to ensuring that we assessed capacity across the installations maintained by the military services for the best joint use possible. Early on in the process, the secretary of defense reviewed and approved those functions within the Department that received joint cross-Service analysis and the metrics for that analysis. While the Services evaluated their unique functions, those determined to be common business-oriented functions (the functions that exist in more than one Service and/or reside in the private sector) were evaluated jointly. In this round, we learned from past experience and chose to take a broader enterprise view. Rather than jointly assessing only depots or labs, for example (as was done in prior rounds), we broadened the analysis to industrial processes and our entire technical base. We also added jointly to the mix, functions, such as headquarters, that had not been previously assessed. This gave the Department the best opportunity to realign mission and basing to joint warfighting solutions.

Q

The Department has begun the process of realigning or closing a number of large permanent bases overseas in favor of smaller and more scalable installations better suited for rapid deployments. You've described these changes as the "most profound restructuring of U.S. military forces overseas since the end of the Korean War." Can you describe how the new footprint might look, and what kinds of changes are in store?

A

Global Defense Posture activities are well under way and a number of initiatives were included in the fiscal year 2008 President's Budget. We have established and set up a rotational presence of a Joint Task Force–East Headquarters in Romania and Bulgaria. There is a 173rd Airborne Brigade transformation (Southern European Task Force) in Vicenza, Italy. We have also continued a transformation of the Army, Navy, and Air Force headquarters in Europe. Other initiatives include the establishment of a Stryker Brigade Combat Team in Germany and a redeployment of Army units from Germany to the continental United States, facilitated by the BRAC process. In Korea, we are implementing the Land Partnership Plan and Yongsan

Philip W. Grone

Deputy Under Secretary of Defense

for Installations and Environment

Philip W. Grone was appointed deputy under secretary of defense for installations and environment on Nov. 1, 2004, after serving as that post's principal assistant deputy since September 2001. Grone has management and oversight responsibilities for military installations worldwide, with a land area covering over 50,000 square miles and containing 577,000 buildings and structures valued at more than $712 billion. His responsibilities include the development of installation capabilities, programs, and budgets; base realignment and closure; privatization of military housing and utilities system; competitive sourcing; and integrating installations and environment needs into the weapons acquisition process. Additionally, he has responsibility for environmental management, safety, and occupational health; environmental restoration at active and closing bases; conservation of natural and cultural resources; pollution prevention; environmental research and technology; fire protection; and explosives safety. Grone also serves as the Department of Defense designated senior real property officer and the DoD representative to the Advisory Council on Historic Preservation.

Grone came to the Pentagon in 2001 with more than 16 years of Capitol Hill experience. He served as the deputy staff director and the assistant deputy staff director for the House Armed Services Committee; staff director of the HASC Subcommittee on Military Installations and Facilities; the subcommittee professional staff member for the HASC Subcommittee on Oversight and Investigations; professional staff member for the Joint Committee on the Organization of Congress; and legislative assistant to U.S. Rep. Willis D. Gradison Jr. of Ohio.

Grone graduated *summa cum laude* from Northern Kentucky University with a bachelor's degree. He earned his master's degree from the University of Virginia.

Relocation Plan, reducing and consolidating our forces into enduring hubs south of Seoul. In conjunction with modernizing our combined combat force capabilities, it provides a future force with increased strategic relevance, flexibility, and responsiveness. The movement of U.S. Marines from Okinawa to Guam is part of the United States–Japan Defense Policy Review Initiative success story in implementing the Department's global defense posture strategy. It will strengthen the United States' secu-

rity and deterrent capability in the region and emphasize Japan's regional security role.

Q

To address consequences and impacts from BRAC decisions, DEAP—the Defense Economic Adjustment Program—assists substantially and seriously affected communities, businesses, and workers by providing coordinated federal economic adjustment assistance. What kinds of support can DEAP offer?

A

DEAP is managed by the Office of Economic Adjustment and offers a flexible program to assist those impacted by BRAC to plan and carry out local adjustment strategies, engage the private sector to plan and undertake economic development and base redevelopment, and partner with the military services as they carry out their DoD missions. The ability to assist these impacted groups is established through executive order and statute and extends beyond DoD to many of the civilian federal cabinet agencies working with the Office of Economic Adjustment and DoD through the Economic Adjustment Committee. Together they ensure a coordinated and responsive program is available to help affected parties respond to DoD impacts. Through the first four rounds of BRAC, the DEAP facilitated over $1.9 billion in adjustment assistance, including $280 million from the Office of Economic Adjustment. Additionally, federal agencies sponsored conveyances of more than 99,000 acres of surplus BRAC property for local public purposes. To assist with the 2005 BRAC effort, the DEAP has facilitated over $180 million in assistance and developed over 30 technical resources to assist local and state responses.

Q

An accurate inventory and a forecast of all assets currently on hand and planned for the future are fundamental to determining and assessing budget requirements. The Department is continuing to improve its inventory process and is working extensively in the interagency process to support a more useful federal inventory that can be used for management purposes. How will implementation of the real property inventory requirements (or RPIR) document provide the basis for a more accurate and current asset inventory database?

A

RPIR is focused on standardizing critical real property accountability business processes across DoD and ensuring that the real property asset information is created, updated, and archived as part of the day-to-day business management of our real property assets. Real property specialists will be better supported in their jobs because of the standardization of processes and data; it takes the guesswork out of doing the job. Our real property information technology systems are being revamped to

ensure that information is created as a result of business events—a leading information business practice in the commercial world. Our systems are also being updated to support the data standards that are a part of RPIR. Through net-centricity, the military departments' real property inventory systems will interface with a central real property data warehouse. This data warehouse, supported by real property unique identification, will serve as the sole source for other systems, programs, and people who have a need to access and manage real property information in the conduct of their various missions. This reform will allow DoD to answer authoritatively for a common framework five basic questions about any asset: What is it? Where is it located? What is its condition? What does it cost to operate? What is its mission-readiness or operational availability? The efficiency and effectiveness of real property inventory reform will benefit not just installation managers but also those who work in the supply chain or force management. This is a fundamental change in business process.

Q

At the outset of this administration, President Bush and then-Secretary Rumsfeld identified elimination of inadequate family housing as a central priority for the Department and set an aggressive target of 2007 to meet that goal. Sustaining the quality of life for military families is crucial to recruitment, retention, readiness, and morale. How have you met this challenge?

A

The Department has done very well. By the end of July 2007, we eliminated over 114,670 inadequate family housing units through 73 awarded privatization projects. At that point, there were about 62,800 inadequate units remaining worldwide, including some 20,000 overseas. We expect to have nearly all inadequate domestic housing eliminated through privatization or military construction by the end of fiscal year 2007 [*this interview took place in August*] and overseas inadequates eliminated by the end of fiscal year 2009.

In the area of improving our barracks, the Navy is using pilot authority provided by Congress to privatize barracks as part of its Homeport Ashore program, which permits enlisted members, when in port, to have the option of living in privatized barracks. To date, one 1,200-unit public-private barracks venture was awarded in January 2007 in San Diego, Calif. Another 2,800-unit project is in the final stages of award at Hampton Roads, Va.

In addition, I am very pleased that we are working with the University of Maryland to formulate a one-year graduate program focused on federal real estate privatizations. It is based on the university's creation of a new real estate master's program and will incorporate prior experience to provide specialized housing privatization training for Services. The program will provide a means to enhance the skills of the inhouse core of trained professional real property portfolio managers within DoD and the Services, with courses focused on real estate law and development, and business and asset management.

Q

Energy conservation is another hot topic for DoD. Conserving energy in today's high-priced market will save the Department money that can better be invested in readiness, facilities sustainment, and quality of life. You're looking into many exciting new alternative sources of renewable energy. Would you comment on some of these initiatives?

There are many renewable energy projects being developed and implemented on various installations. The Air

> A high-performing, agile, and competent workforce is an absolute necessity, given the volume of work and timelines necessary to support global rebasing, BRAC execution, and growing the force.

Force recently signed a contract to deploy the nation's largest photovoltaic array at Nellis AFB. The Navy is facilitating a new geothermal electricity generation plant at Naval Air Station Fallon and evaluating Ocean Thermal Energy Conversion and Ocean Wave Energy technology. In Hawaii, the Army's housing privatization partner produced a project that included the largest use of solar power in a housing development ever attempted. Those are just a few of the many initiatives the installations and environment community is working on to reduce conventional energy consumption.

Q

To make operations more efficient and sustainable across the Department, you've talked about implementing environmental management systems that are based on the "plan-do-check-act" framework. Can you describe how this framework operates and how you are embedding such management systems into mission planning and sustainment?

A

An environmental management system, or EMS, is a formal framework for integrating the consideration of environmental issues into the overall management structure at an installation. It's required by Executive Order 13423, "Strengthening Federal Environmental, Energy, and Transportation Management," signed by the president in January 2007. This order replaced and updated the EMS requirements in previous executive orders. An EMS makes good business sense. When properly implemented, these systems identify the environmental aspects of the mission, highlight and prioritize areas of risk, promote pollution prevention, and track progress toward environmental goals. DoD's EMS focus is at the installation level. Each military service has developed mission-focused EMS procedures based on DoD and executive order requirements. A key part of an EMS is the cross-functional teams from the various organizations on the installation whose activities im-

pact the environment. These teams identify issues that are then provided to an environmental management council that advises the installation commander on the management of objectives, goals, and targets to improve environmental and mission performance. The objectives, goals, and targets are prioritized, and resources are identified. Actions are implemented to meet them and then assessed for effectiveness. The management system facilitates corrective action for continuous improvement.

DoD has 596 EMS-appropriate facilities, 506 in the United States and territories and 90 overseas. Although implementing EMS overseas is not required by the executive order, the Department is implementing it there because of the overall benefits to mission sustainability.

EMS implementation and operation has been written into the Defense Installations Strategic Plan and the AT&L Strategic Goals Implementation Plan. We are refining new EMS guidance that will emphasize the cross-functional nature of the framework and how it interacts outside the environmental community. In addition, the Services have developed EMS policies and training that emphasize awareness by all and the importance of senior leadership involvement. Together, these efforts are beginning to change perceptions of environmental management so that it's seen not merely as placing restrictions on operations, but rather for its capability-enabling potential.

Q

The Department has developed a program of compatible land-use partnering that promotes the twin imperatives

Two years ago, we helped launch the Southeast Regional Partnership for Planning and Sustainability, to work with state governments, other federal agencies, and nongovernmental organizations to promote better collaboration in making resource-use decisions.
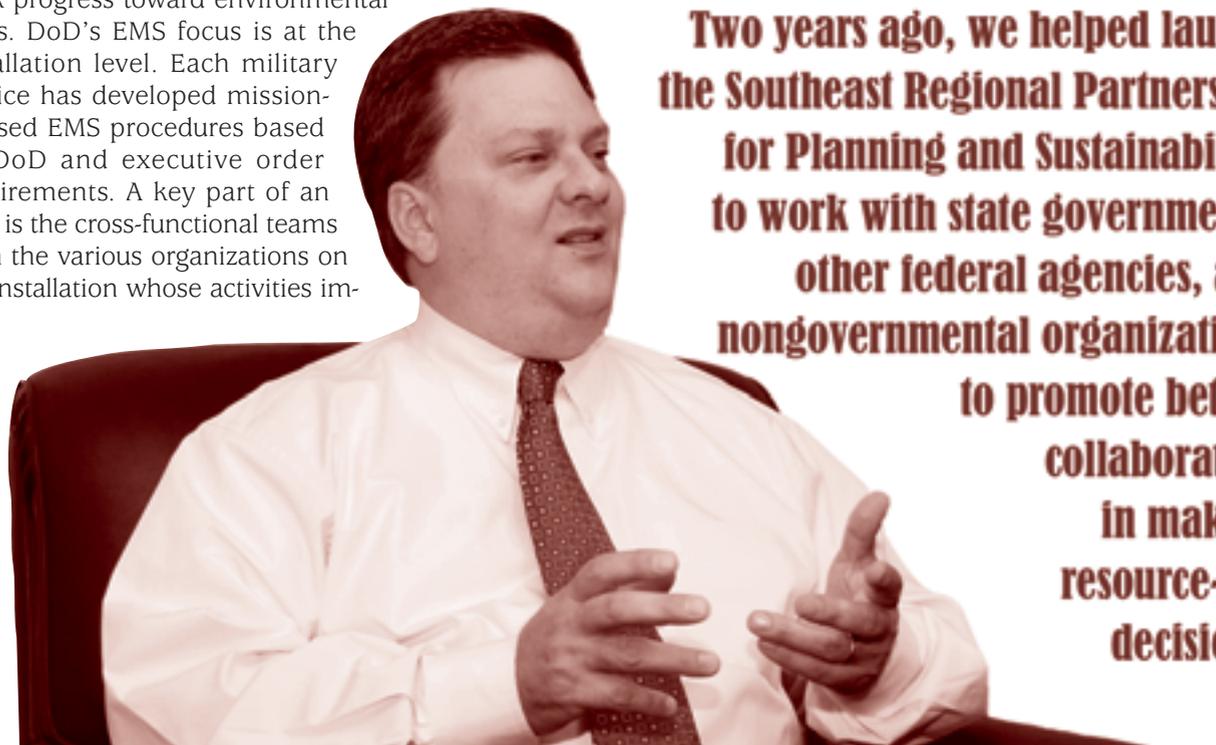
of military test and training readiness and sound conservation stewardship through collaboration with multiple stakeholders. What initiatives are promising in this area? What kind of particular challenges does balancing such disparate goals entail?

A

The Department of Defense Readiness and Environmental Protection Initiative provides funding for the military to work with state and local governments, non-governmental organizations, and willing land owners to help prevent encroachment on our training and testing ranges and on our installations. The funding leverages public-private partnerships to promote innovative land conservation solutions and compatible land use that benefit military readiness and the environment. To date we have partnered on over 50 projects, and interest and support for REPI projects continue to grow as we reach out to neighbors at our installations and ranges.

We have found that a regional approach for engaging stakeholders is very effective. Two years ago, we helped launch SERPPAS, the Southeast Regional Partnership for Planning and Sustainability, to work with state governments, other federal agencies, and nongovernmental organizations to promote better collaboration in making resource-use decisions. Based on our success with SERPPAS, we're now working with prospective partners to launch the Western Regional Partnership. These partnerships will help all participants leverage resources and work together to ensure that their missions and interests are considered in resource-management decisions; and for DoD, that means sustaining military readiness. The challenge we face is that resources are finite, and no department, agency, or organization today can go it alone to sustain its mission.

Q

Metrics are playing an increasing role in how installations are managed and evaluated. Currently under development are common output level standards for such functions of installations support as environment, family housing operations, and services. Commercial benchmarks are commonly applied in this effort. To what extent is it difficult to compare the activities on installations to comparable commercial venues?

A

Two components of commercial benchmarks are looked at when developing metrics. One is the level of service, or what the customer receives, and the other is cost. Functional experts from the military departments and the Office of the Secretary of Defense teamed to develop common definitions for the level of service for the total cost of installations, including facilities sustainment, facilities recapitalization, and installation support functions. The Department has already developed cost models for

facilities sustainment, facilities modernization, and facilities operations. Currently under development is a new cost model to assist in programming and planning for costs associated with installation services.

Where applicable, we've considered commercial, industry, trade, and other governmental references for frequency and standards of service in arriving at output levels and cost for installation services. Some activities and services have a high degree of correlation with the commercial sector, as for example, facility maintenance and repair or services such as custodial, grounds maintenance, and dining hall operations. However, operating in a military environment poses unique requirements for most installation services.

Installation personnel who perform services often have additional duties that are not commensurate with their industry counterparts. Military personnel who provide services have training and deployment requirements that must be considered. And some functions simply do not translate to the non-DoD world.

As we've developed standards and conducted analyses, we have isolated the impact on service of operating in a military environment to find some correlation with industry. The military factor is then added. For installation services that are not provided in the private sector, we've reviewed internal data to derive service levels and cost. The final objective is to ensure all military members receive proper installation support that is standardized across DoD by defining common output levels and objective pricing.

Q

The Department manages an inventory of over 577,000 buildings and structures. The National Historic Preservation Act requires evaluation of properties when they reach 50 years to determine if they are eligible for the National Register of Historic Places. *Currently, about 32 percent of DoD's buildings are older than 50 years; based upon current inventory forecasts, that percentage will increase rapidly over the next 20 years. Ten years from now, over 55 percent of our inventory will be older than 50 years, and each of those buildings will require evaluation to determine eligibility for the* National Register *and, therefore, may be subject to the requirements of the National Historic Preservation Act. In 20 years, it may grow to over 65 percent. This must present an enormous management challenge. What are you doing to address the issue?*

A

It's true that the Department has tremendous inventory of historic buildings and structures that connect our fighting men and women with the proud history and traditions of military service.

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In consultation with stakeholders, we have developed a full suite of programmatic alternatives to case-by-case consultation; those alternatives allow effective, streamlined compliance with the National Historic Preservation Act and other authorities. Individual installations are working to develop agreements with state historic preservation officers and other consulting parties to develop installation-wide processes and procedures, rather than addressing the assets on a case-by-case basis. In partnership with the Advisory Council on Historic Preservation, the National Conference of State Historic Preservation officers, and the National Trust for Historic Preservation, the Department has established five agreements that address approximately 125,000 buildings, or 37 percent of our 344,950 buildings. These nationwide agreements eliminate the need for evaluation, consultation, and mitigation for each individual building.

The Department will continue to promote and interpret the historic buildings under our care, both to inspire our personnel and to encourage and maintain the American public's support for its military. Our cultural resources are the nation's assets; we are their stewards, not their owners.

Q

Are there any other areas you'd like to share with our AT&L workforce?

A

Community management has been one of my most important priorities. A high-performing, agile, and competent workforce is an absolute necessity, given the volume of work and the timelines necessary to support global rebasing, BRAC execution, and growing the force. And to those we add the clear necessity of sustaining, restoring, and modernizing our assets, plus the increasing intensity of requirements in the energy and environmental areas.

This year, we added key objectives to the Defense Installations Strategic Plan to reflect the importance of workforce development and management. The first key objective is to strengthen knowledge, skills, and abilities of the installations and environmental workforce by ensuring that career field management plans are in place. The second is to improve the Department's ability to work constructively with external entities by establishing a competency-based approach to developing collaboration and partnering skills.

These objectives fit well within the Department's implementation of the National Security Personnel System, focusing attention on performance-based personnel management. I intend to continue I&E's workforce leadership and performance proficiencies, specifically in supporting AT&L's goals and objectives and in the overall I&E's contribution to the Department's mission and capabilities.

IUID: An End-to-End Look at Cross-Functional Relationships

Kimberly Meyer

Since its introduction in July 2003, the initial emphasis of item-unique identification (IUID) implementation has been on new acquisitions because of the myriad decisions to be made on a case-by-case basis: where to mark, testing and certification after marking, cost of marking and reading equipment, contracting implementation, and many other issues. However, now that the initial implementation processes are maturing for new items, it's time to take a more comprehensive look at integrating IUID requirements across the Department of Defense.

Recent IUID forums and policy documents have, in fact, expanded their focus to include the three main areas requiring IUID: new items, legacy items, and property in possession of the contractor (PIPC, formerly known as government-furnished equipment or GFE). A Feb. 6, 2007, policy update signed by Ken Krieg, former under secretary of defense for acquisition, technology and logistics, reinforces this expanded focus by placing emphasis on "sustaining momentum toward achieving paperless management of property in the possession of contractors in FY2007 and furthering depot planning and implementation." While these processes are receiving more emphasis, there is still little discussion of the three areas in relation to each other and the processes, initiatives, and functions impacting each area. This article relates the three key areas for an end-to-end, cross-functional perspective of implementing IUID on new items, legacy items, and PIPC. (The end-to-end concept is represented pictorially in a graphic available on the Acquisition Community Connection Unique Identification special interest area at < https://acc.dau.mil/uid > .)

The program manager is ultimately responsible for implementing IUID on Department of Defense programs, whether new items, modifications, or legacy items. When structuring a program to implement IUID, the PM must take a broader, cross-functional perspective of UID and look beyond how and where to mark an item. While the paths to implementing IUID for new and legacy items are somewhat different, there are many tasks in common that the PM needs to consider. Once items are marked, the culmination of IUID implementation is entry into the IUID Registry—but that is certainly not the end of the

The vision of IUID implementation is the generation of better decision-making data within DoD for faster, more efficient acquisition, repair, and deployment of items. The question: How can we make this vision a reality? The answer: With an end-to-end, cross-functional focus.
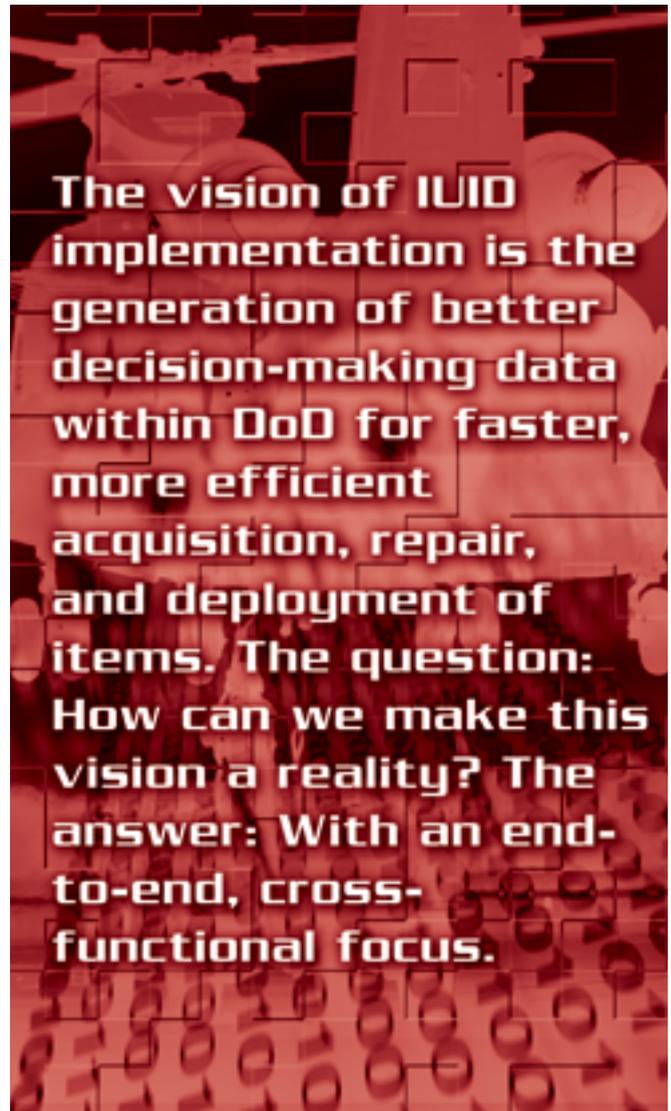
process. Data and information contained in the IUID Registry must be fed back into multiple asset-management data systems across the Department. These systems, with the common data key of an IUID, will allow the PM insight into managed assets and will provide better data for decision making.

The vision of IUID implementation is the generation of better decision-making data within DoD for faster, more

Meyer *is a professor of program management and business, cost, and finance at DAU. She is currently consulting on numerous IUID projects with the Office of the Secretary of Defense.*

efficient acquisition, repair, and deployment of items. The question: How can we make this vision a reality? The answer: With an end-to-end, cross-functional focus. There are three key tasks common to new items or to modifications and legacy items at the depot that significantly impact the success or failure of IUID implementation within a program; they are the focus of this article:

- Integrated product teams (IPTs)
- Contracting for IUID
- Data entry into the IUID registry.

The Importance of Cross-Functional Involvement

IUID implementation is a very broad and complex initiative, and for successful implementation, the PM must have a team of dedicated, knowledgeable, functional experts to ensure all IUID requirements have been fully understood and incorporated. This IPT must include personnel from multiple functions such as program management, contracting, financial management, engineering, logistics, property, item management, and equipment management. The participation of all these functions is necessary so that no important areas are forgotten when planning for IUID implementation. Lack of cross-functional involvement in planning can have far-reaching consequences for the program and the Department as a whole—but in the end, it is the warfighter who bears the brunt.

What are some situations where lack of effective IPT involvement could lead to less-than-successful IUID implementation? One example is a poorly written contract that does not clearly lay out the IUID requirements for the contractor; another is a contract that can't be enforced when items are delivered improperly marked. If contracting personnel aren't brought into the team during the planning stages, it may be very difficult to construct the contract in the required format for IUID. When IUID was first implemented in the Department, many program offices followed the guidance and included the DFARS (Defense Federal Acquisition Regulation Supplement) clause in the contract but did not fully identify for the contractor the items they intended to be marked. When the contractor delivered the items at the end of the contract and they weren't marked, the government had no recourse but to accept them because the government's communication of requirements to the contractor had not been clear.

Another example (overheard at the February 2007 San Diego, Calif., UID Forum) described a problem reading the IUID mark after items were delivered to the government. The part in question required direct part-marking by etching to a particular depth. Following the etching, the part was then painted to enhance its structural integrity. Unfortunately, the required layers of paint were thicker than the depth of the mark, rendering it unreadable. If the government engineers had been involved in the up-front

planning for the item, the part-marking methodology could have been analyzed and adjusted so government funds would not have been spent to etch an item with a mark that subsequently couldn't be read.

Lack of cross-functional involvement can also lead to a less-than-optimal prioritization of items to be marked, causing scarce resources to be spent on marking items that may seem the easiest but don't return the greatest benefit to the organization. Cross-functional involvement can help mitigate such risks, and IPTs are a key tool to support that involvement.

Contracting: A Key Player

Effective contracting, our second key task, is integral to all three areas of IUID implementation, and a properly structured contract helps ensure the government receives the product or service it intended. A proper contract will include the DFARS clause 252.211-7003, "Item Identification and Valuation," to communicate contractual requirements to potential offerors. In addition to the inclusion of the appropriate clause in the request for proposal, contract structure is very important. Items requiring IUID have to be delivered on a contract line-item number (CLIN), sub-line-item number (SLIN), or exhibit line-item number (ELIN), or a combination of the three. CLINs, SLINs, or ELINs are established when the contract is structured prior to award and should be assigned to each type of item for which the government will take delivery. Prior to structuring the contract, the government IPT needs to fully identify which items will require marking, including those items with an acquisition cost over $5,000; those under $5,000 identified by the PM as requiring tracking; and those that are embedded subassemblies, components, and parts. Items under $5,000 or embedded components will need to be identified.

Many contracts since the IUID requirement was implemented have not properly structured the CLINs, SLINs, or ELINs, and that leads to issues when items are delivered, particularly when invoices or acceptance are requested via wide-area workflow (WAWF). [*WAWF is a system for performing electronic acceptance and invoicing on DoD contracts that provides a direct electronic feed to the*

payment system as well as to other DoD applications.] In many instances, CLINs have been represented as "QTY/UNIT = 1 LOT" rather than "QTY/UNIT = 50 EA [*each*]." WAWF will allow items to be accepted as part of a lot and the lot's IUID information recorded; however, unless there is significant manual intervention, the contractor cannot be paid until all the items in the lot have been delivered and accepted. This can cause concern for the contractor, but it can easily be avoided by following proper contract structure as outlined in DFARS 204.71.

In addition to ensuring contracts are structured properly, contracting personnel can contribute significantly to the IPT and success of IUID implementation by early involvement in strategy formulation. For example, an Army program that buys support using contractor logistics support—CLS—worked with the Office of the Secretary of Defense to identify a contract structure for CLS. The structure included an attachment of all items to be marked rather than a detailed listing in Section B of the contract. The team then worked with the contractor to keep costs to a minimum by having the parts marked as they entered the CLS warehouse instead of at every small business or subcontractor facility. Another example involved Army locomotives purchased by the Department of Transportation. After consulting with a contracting officer, the U.S. Army PM decided it would be more cost-effective to amend the solicitation and have the contractor mark the three-generator set of locomotives and major components with an acquisition cost greater than $5,000 (axle, motor, etc.) rather than accept the items and then mark them as legacy items. Both of these examples highlight the importance of IPT involvement early in the process and of effectively structuring the contract to achieve desired results.

Data Delivery

Once the IUID requirement has been included on the contract or in the implementation plan, there are two main processes involved in implementation itself: item marking and delivery of item data. Delivery of data, our third key task in the end-to-end, cross-functional examination of IUID, is accomplished through the IUID Registry where all IUID data are captured and stored. The registry will contain information on new acquisitions as items are delivered and accepted, and on legacy items as they are marked. The registry is the repository of IUID information and will contain all the pedigree information on the item, including a description of the item, its original owner, its initial value at acquisition, whether any major modifications have been made, its serial and part numbers, acceptance information, and any embedded items.

Once items are marked, there are several data-entry methods. For new items, the primary method is through WAWF. Use of electronic invoicing was mandated by law in the 2001 National Defense Authorization Act, subse-

quently codified in DFARS 52.232-7004 and implemented contractually through the clause at DFARS 252.232-7003, "Electronic Submission of Payment Requests." The DFARS specifically mentions WAWF as one of the accepted methods for electronically invoicing.

Though WAWF is the primary method for new procurements, it is not used by depot maintenance facilities marking legacy items and is still not used by all contractors; however, recent DFARS updates mandate its future use by all contractors. Those entities not employing WAWF can enter data into the IUID Registry through electronic data interchange input by direct electronic submission or manually via the UID Web entry site at < www.bpm.gov/iuid > . When marking legacy items at a depot maintenance facility, each Service has its own rules and processes for entry into the registry, and most use an interim system to collect data from the depot marking entities to then transmit to the registry. Once IUIDs are entered into the registry, the data will facilitate effective and efficient accountability and control of DoD assets and resources in support of DoD business transformation and warfighter mission fulfillment. The end goal is to enter data once and reuse them often, reducing the need to manually enter data in many different systems. As DoD systems move towards a more net-centric environment, the registry will

- Support life-cycle visibility for tangible items by integrating financial, maintenance, and accountability systems
- Enhance quality of information available for configuration management, systems engineering, logistics support, and operational planning
- Enable paperless management of DoD property.

We're Not There Yet

By April 2007, over 1.3 million items had been entered into the IUID Registry, but there are many more items still needing to be marked and registered, particularly legacy items already in the Department's inventory. Estimates place the total number of items requiring IUID marking at over 100 million.

A cross-functional framework is necessary for the successful implementation of IUID across DoD. We must bring in the right players, effectively structure contracts or statements of work for the depots, and enter data efficiently into the data repository. As you take the steps to implement IUID on your programs, you'll find support and training on the IUID home page at < www.acq.osd.mil/dpap/UID/ > and through other resources listed in the sidebar on the previous page.

The author welcomes comments and questions and can be contacted at kimberly.meyer@dau.mil.

Wide Area Workflow Helps U.S. Navy Modernize Receipt and Acceptance Process

Edward Tuorinsky ▪ *Samantha Haber*

The Department of Navy was faced with a problem: Their primarily paper-based receipt and acceptance process was resulting in lengthy invoice turnaround times, growing interest burdens, and hefty processing fees. In fiscal year 2001 alone, the Navy spent more than $30 million in interest payments and well over than that in vendor payment processing fees. The Navy very much needed to reengineer its processes, but with over 83,000 vendors and more than 10,000 Navy acceptance authorities, it faced an enormous, systematic technical and change-management challenge. How did the Navy make the culture change and embrace wide area workflow (WAWF) to garner both cost savings and increased efficiencies?

WAWF Explained

WAWF is a Web-based system that allows contractors and authorized Department of Defense personnel to create and transmit electronic invoices and receiving reports and to access contract-related documents online. WAWF's inception was driven by the overall paperless contracting initiative in response to the DoD comptroller's May 1997 Management Reform Memorandum #2, "Moving to a Paper-free Contracting Process by January 1, 2000." The WAWF initiative was built on a foundation of full utilization of source data input—shared electronic documents, data, and information.

WAWF is a standardized, DoD enterprise system developed with input from all defense Services and agencies. Experience to date has shown that WAWF users are able to process invoices more efficiently and get contractors paid on time more often. The initial requirements were developed at the user level to ensure major processes were defined correctly as regulated best practices and that the software met DoD's receipt and acceptance needs. Contractor participation was crucial to the success of the final product. Groups such as the Aerospace Industries Association provided critical insight and advice as representatives of both the DoD contractor community and acquisition industry leaders.

Distribution and processing time for invoices and payments has shrunk from 10 days to 20 hours, and correction of misrouted documents has been reduced from 23 days to 23 minutes.

One of the key aspects of the end product is a simple and uniform point of entry for all DoD contractors and government authorities to process invoices. This is accomplished via a clean graphical user interface coupled with back-end system integrations that allow WAWF to interface seamlessly with a number of existing DoD acquisition systems. During the document creation process, contract data are automatically retrieved from the electronic document access server and inserted into forms. After a record has been certified for payment, WAWF

Tuorinsky *is vice president at Universal Consulting Services, Inc., in charge of professional services and the Navy wide area workflow implementation lead.* **Haber** *is a project manager at Universal Consulting Services, Inc., and supports the Office of the Deputy Assistant Secretary of the Navy, Acquisition and Logistics Management (DASN ALM), as an e-business systems technical subject matter expert.*

Figure 1. **Navy WAWF Usage 2005 – 2007**

Figure 1. **Navy WAWF Usage 2005 – 2007**

	1Q 05	2Q 05	3Q 05	4Q 05	1Q 06	2Q 06	3Q 06	4Q 06	1Q 07	2Q 07
Non-WAWF	289,142	276,658	233,501	242,123	185,037	177,729	164,061	160,532	134,966	111,632
WAWF	26,578	37,888	46,447	58,387	64,470	74,464	83,869	86,311	86,648	85,939

interfaces with the appropriate entitlement systems to ensure funding information is accurate and to schedule the electronic payment. WAWF also sends automatic updates to the various DoD accounting systems, including the Navy's own enterprise resource planning system.

Prior to the introduction of WAWF, contractors would submit paper invoices and receiving reports when they supplied goods or services to DoD. The documents underwent a process of inspection, acceptance, and certification; and finally, payment was made to the contractor. Average processing time for an invoice (the time between submission and scheduling for payment) was over 30 days and was even longer if there were errors. Because the process was paper-based, tracking down documents after submission was cumbersome.

WAWF provides a more effective and efficient solution. Using WAWF, contractors securely submit electronic versions of required documents instantly. The documents travel to the appropriate parties (determined by routing codes keyed in upon submission), where they are digitally reviewed and signed. WAWF ensures data accountability, as users can edit only the information they have supplied and are limited to performing functions for which they are authorized. The streamlined WAWF interface and standardized forms employ only information relevant

to the receipt and acceptance process. The Web-based interface reduces human errors in processing and eliminates the need for rekeying data. All of this combines for an optimized business solution.

WAWF automatically notifies contractors by e-mail whenever an action has been taken on their document. It also alerts government employees of any actions required by their function. Because information is transferred from one party to the next in real time, an invoice can be scheduled for payment within days—or even hours—of submission, allowing the government to take advantage of contractor-offered discounts and better comply with the Congressional Prompt Payment Act.

Navy Targets Efficiency and Cost Savings

The Navy's specific impetus to implement WAWF was targeted at three main objectives:

- To eliminate paper from the acquisition process, enabling users to access and track documents and processes electronically, thereby increasing both efficiency and accountability
- To save money by lowering interest penalties through faster payment to contractors and lowering transaction processing fees by way of electronic automation
- To allow the Navy to track supplies, services, and government property by integrating Unique Identification (UID), Radio Frequency Identification (RFID), and other technologies.

Initially convincing individual Navy sites of the need and benefits of implementing WAWF proved difficult. Organized as independently managed units, many sites had unique processes for performing receipt and acceptance and were less-than-enthusiastic to implement a new, standardized system. The culture shift associated with moving from a paper- to Web-based environment also proved daunting.

The WAWF implementation team, headed by Universal Consulting Services, Inc., used a top-down approach, ensuring initial buy-in at the highest levels first. Memoranda from the secretary of the Navy and Navy comptroller outlined aggressive targets for WAWF adoption. Independent Navy commands were approached and sold on the multiple advantages of an automated receipt and acceptance process.

The team visited individual sites in person to outline how implementation could be successfully accomplished and what specific benefits would be derived at each site. They

Web Resources

WAWF Production Site:
<https://wawf.eb.mil>

WAWF Training Site:
<https://wawftraining.eb.mil>

WAWF Web-based Training
<www.wawftraining.com>

DoN Acquisition One Source
<http://acquisition.navy.mil/acquisition_one_source/>

The Navy is on track to meet its aggressive goal of 100 percent WAWF usage for fiscal year 2008.

stressed the advantages of a simplified uniform interface, defined business processes, increased contractor and government accountability, and optimized turnaround times. They calmed fears by providing ongoing support through a Navy WAWF help line available to government and industry partners alike, and informative, hands-on training programs.

Early WAWF Successes

The Navy Bureau of Medicine and Surgery was one of the first Navy commands to embrace the WAWF advantage. In 2001, BUMED paid over $36,000 in interest penalties. In order to meet a goal of reducing interest payments by 40 percent, BUMED began their WAWF implementation in the early part of 2003. By the end of 2004, BUMED was processing over 1,400 invoices in WAWF per month, and interest payments had dropped by almost 80 percent (twice their initial goal).

The Naval Education and Training Command provides another good example of WAWF success. NETC reimburses sailors and Marines for courses taken at local universities. Prior to implementing WAWF, it took six to eight weeks for NETC to process the tuition payments and textbook reimbursements. Reimbursements are now processed in just two days. NETC estimates an annual savings of over $1 million.

Overall Navy WAWF usage has grown from about 8 percent in the first quarter of fiscal year 2005 to over 40

percent in the second quarter of fiscal 2007 when more than 86,000 Navy invoices totaling more than $10 billion were processed through WAWF (Figure 1 on the previous page).

Based on data projections and anticipated effects of upcoming WAWF system version releases, the Navy is on track to meet its aggressive goal of 100 percent WAWF usage for fiscal year 2008 (Figure 2).

Reaping the Benefits

The benefits of WAWF for the Navy and its contractors are numerous. Electronic access enables users to view documents online and check the status of invoices and receiving reports at any time. Contractors receive feedback immediately if a document is rejected by the Navy, and they are able to take corrective actions and resubmit the documents electronically in real time. Experience to date has shown that WAWF users are able to process invoices more efficiently and get contractors paid on time more often.

The Navy benefits from WAWF are equally apparent. Electronic inspection and acceptance enables real-time processing and document access. Fewer documents are lost or misplaced, and data accuracy is greatly improved. Distribution and processing time for invoices and payments has shrunk from 10 days to 20 hours, and correction of misrouted documents has been reduced from 23 days to 23 minutes.

Another benefit of WAWF is the significant decrease in the cost of processing Navy invoices at the DoD level as evidenced by the reduction of transaction processing fees. The Defense Finance and Accounting Service processes most DoD invoices before payment, charging a fee six times higher to process paper invoices than electronic invoices. DFAS currently processes about 1.6 million transactions per year, with 1.1 million going through WAWF.

Figure 2. **WAWF Data Projections**

Wide Area Workflow continued on page 19

On The Edge

Wayne Turk

When you're living on the bleeding edge,
don't be surprised when you do, in fact, bleed.

While it had probably been around a while, the first time I heard the term "bleeding edge of technology" was about 25 years ago, when Lt. Gen. James Stansberry, the commander of what was then the Electronic Systems Division at Hanscom Air Force Base, used the term to describe some of the Air Force programs and projects being developed and tested there. It seemed very apropos at the time. The use of the phrase still brings a knowing chuckle. In our community, we know of too many times when we've stepped over the leading edge onto the bleeding edge and suffered for it. Sometimes we forget some of the breakthroughs and successes.

Bleeding edge refers to technology so new that it hasn't been sufficiently tested, so using it involves significant risks. It also refers to the fact that the latest technology is extremely expensive.

More Terminology

We'll get back to bleeding edge in a moment, but first let's look at some related terms.

Leading-edge (or cutting-edge) technology is usually the latest and greatest, but it is proven. We're reasonably sure we can count on it to work.

Trailing-edge technology is also proven technology, but it's been around for a while and has been surpassed by

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Turk *is an independent management consultant with Suss Consulting and a retired Air Force lieutenant colonel and defense contractor. He has supported information technology projects, policy development, and strategic planning projects for DoD, other federal agencies, and nonprofit organizations.*

something else. Trailing edge can become inadequate and outmoded very quickly, if it isn't already.

Pleading-edge technology has been around so long that it is hard to get parts or support for it. You have to beg and plead for the help that you need. In today's terms, it would be technology at the end of the life cycle.

Bleeding-edge technology implies a great degree of risk. A technology may be considered bleeding edge under the following conditions:

- Lack of consensus—Competing ways of doing some new thing exist, and no one really knows for sure which way will turn out to be the best in the end.
- Lack of knowledge—Trying to implement a new technology or product that the trade journals haven't even started talking about yet.
- Some or all of the research could be classified.
- Industry (or government) resistance to change—Trade journals and industry/government leaders have spoken out against a new technology or product, but some organizations are trying to implement it anyway because they are convinced it's technically superior.

Pros and Cons of Early Adoption

The rewards for successful early adoption of new technologies can be great. From a DoD perspective, it can lead to weapons, sensors, software, or other technological advances that could save lives or increase our capabilities over our enemies or potential enemies. Some successful examples of using what was, at the outset, bleeding-edge technology: stealth technology, reconnaissance satellites, battlefield integration of information, the SR-71, and smart bombs.

Unfortunately, the penalties for betting on the wrong horse or choosing the wrong technology can be equally great. Whenever a program takes a chance on bleeding-edge technology, there is a possibility of being stuck with a current equivalent of the Betamax videotape recording format (for the young folks, that was the format that lost to VHS before VHS lost to DVD, which is now losing to TiVo and other digital technologies).

On the downside, bleeding edge technology can lead to failure, bad publicity, ill feelings, ruined careers, and wasted resources that could have been better used elsewhere. At the risk of stepping on some toes, here—*based on public perception*—are some examples of non-successes (I won't say failures): "Star Wars," NPOESS [*National Polar-orbiting Operational Environmental Satellite System*] Weather Satellite program, untold numbers of software programs, and the Navy's ill-fated A-12 combat aircraft. Some of these are still viable programs and may be great successes in the end, but the A-12 and many of the software programs are already in the

grave. There are others that have some perception of failure in the public eye even though they are fielded and functioning. Among them are the F-22 Raptor and the V-22 Osprey.

Now that many readers are aggravated and have quit reading this altogether or are already penning letters to the editor, we will move on.

When to Consider Bleeding Edge

Beth Cohen, in a January 2004 *SmallBusiness Computing.com* article, "Emerging Technology and the IT Lifecycle," came up with a set of questions for companies looking at the bleeding edge. I have adapted her questions and added more to fit DoD and the government acquisition community. Even so, they are just the start of the questions that have to be asked.

- Is there a significant problem that new technology has the potential to solve?
- How long will it take to develop? How long *could* it take?
- Do you have a clear and full understanding of how the emerging technology will work?
- Has it progressed far enough to justify the risk and the expense?
- Do the organizational cultures of the program office, the Services, and the eventual users support the use of this emerging technology?
- Do you have the qualified staff to plan and implement the project?
- Do you have access to staff with the skills required, or can you contract for them easily?
- How much will it cost? How much will it *really* cost?
- Will you be able to get the funding?
- What is the tolerance for failure?
- What is the tolerance for rapid change?
- What is the backup plan if the new technology doesn't work?

If you have good answers to most of those questions and others related to them, then you might consider bleeding-edge technology. If not, stick with more mature and proven technologies. The project can still go leading edge, just not over the line to bleeding edge.

DARPA as a Source

DoD has led the way in many areas of technology for years. In fact, the Defense Advanced Research Projects Agency was established in 1958 to look at just that kind of bleeding-edge technology. DARPA's mission has been to assure that the United States maintains a lead in applying state-of-the-art technology for military capabilities and to avert technological surprises from adversaries. DARPA looks at state-of-the-art before it actually is. Strong support from the senior DoD management has always been essential, since DARPA was designed to be different from our conventional military and research and development

structure and, in fact, to be a deliberate challenge to traditional thinking and approaches.

They've been pretty successful, too. Early in its history, DARPA developed ARPANET, the precursor to the Internet, and led research in the artificial intelligence fields of speech recognition and signal processing. DARPA funded much of the early development of virtual reality. Through their funding and direct work, they were in the vanguard of research and development of standoff weapons, much of today's C4I, many tactical armor and anti-armor programs, infrared sensing for space-based surveillance, high-energy laser technology for space-based missile defense, much of our antisubmarine warfare capabilities, advanced cruise missiles, many of the advanced aircraft designs, and defense applications of advanced computing. They continue to be a good source of tomorrow's technology. However, funding has decreased, so DARPA as a source may be somewhat limited.

DARPA has been the primary source for much, but not all, of the bleeding-edge technology for DoD in the past. Other sources include the Services, academia, and contractors. As long as someone can see how the new technology will benefit the warfighter, and as long as there are champions to fight for its use and people to make it practical, DoD will continue to be at the forefront of bleeding-edge technology use.

Bleed or Succeed
Going with bleeding-edge technology is—pun intended—a double-edged sword. You could be leading the charge to the future and reaping benefits for the users, or you could be wasting time on technology that will never happen. As that famous engineer and creator of apt quotes, Anon, said, "When you're living on the bleeding edge, don't be surprised when you do, in fact, bleed." Remember quadraphonic sound, a technology that was going to replace stereo but never did, dying a slow death in the late 1970s?

Bleeding-edge technology has great potential, but the risks are high. It can be a huge waste of time, effort, and money. But if it is successful, the benefits can be just as great or greater. Weigh the risks carefully. Consider what will happen to the end users, to the program, and to the people involved if it is unsuccessful. Are the benefits and costs worth it? Be realistic in the considerations. Wishes are not reality! If the benefits are worth it, move forward, but also try to keep a backup plan. With bleeding-edge projects, there will always be some failures. But there will also be some pretty spectacular home runs.

In fiscal 2006, the Navy reduced its DFAS processing fees by over $9 million by realizing the electronic processing rate and stood to save an additional $11 million for those invoices that were eligible but not processed through WAWF.

WAWF also provides reduced prompt payment interest penalties through improved cycle times. The ability to pay contractors within the specified payment terms (typically net 30 days) significantly reduces the interest penalties incurred. The interest paid for Navy invoices processed manually is more than $300 per million. For invoices processed through WAWF, the interest incurred to date is 12 times less, at just under $25 per million.

On the Horizon
Beyond the cost and time savings, WAWF has transformed the way the DoD tracks and manages inventory. Contractors have the ability to input RFID and UID information when creating shipping documents, which allows the Navy to track an entire shipment or even to locate a specific item within a shipment as it travels to its destination. Government-furnished property can also be managed using WAWF, allowing the DoD to locate and account for its own property as it is transferred between different contracts or locations. WAWF allows the DoD to continue its transformation to just-in-time inventory management (a system in common use in the private sector), allowing for significant savings in inventory storage and handling costs.

The WAWF program is continuously looking ahead to improve on system functionality and to enhance benefits. For the Navy, this could mean future automated acceptance and asset visibility even further into the supply chain, facilitating better support for the warfighter where most needed—on the frontlines. The increased transparency of accounting processes facilitated by WAWF is also an integral part of the Navy's financial improvement plan. The standard data, transaction sets, and interfaces on which it is built help drive the DoD Business Transformation Agency's objective to deliver enterprise-level capabilities aligning with the warfighters' needs.

As WAWF is implemented across the Navy, the goal of achieving a more standardized Navy accounting system for all transactions is becoming a reality as the Navy targets its goal of 100 percent WAWF usage by the end of fiscal year 2008. The successes to date indicate that the Navy is more than up to meeting this challenge head on.

The author welcomes comments and questions. Reach him at wayne.turk@sussconsulting.com or rwturk@aol.com.

The authors welcome comments and questions and can be contacted at edward@universal-inc.net and samantha.haber@universal-inc.net.

The Right Readiness at the Right Cost

A Naval Aviation Enterprise Journey

Will Broadus ▪ Duane Mallicoat, with Rear Adm. Michael D. Hardee, USN
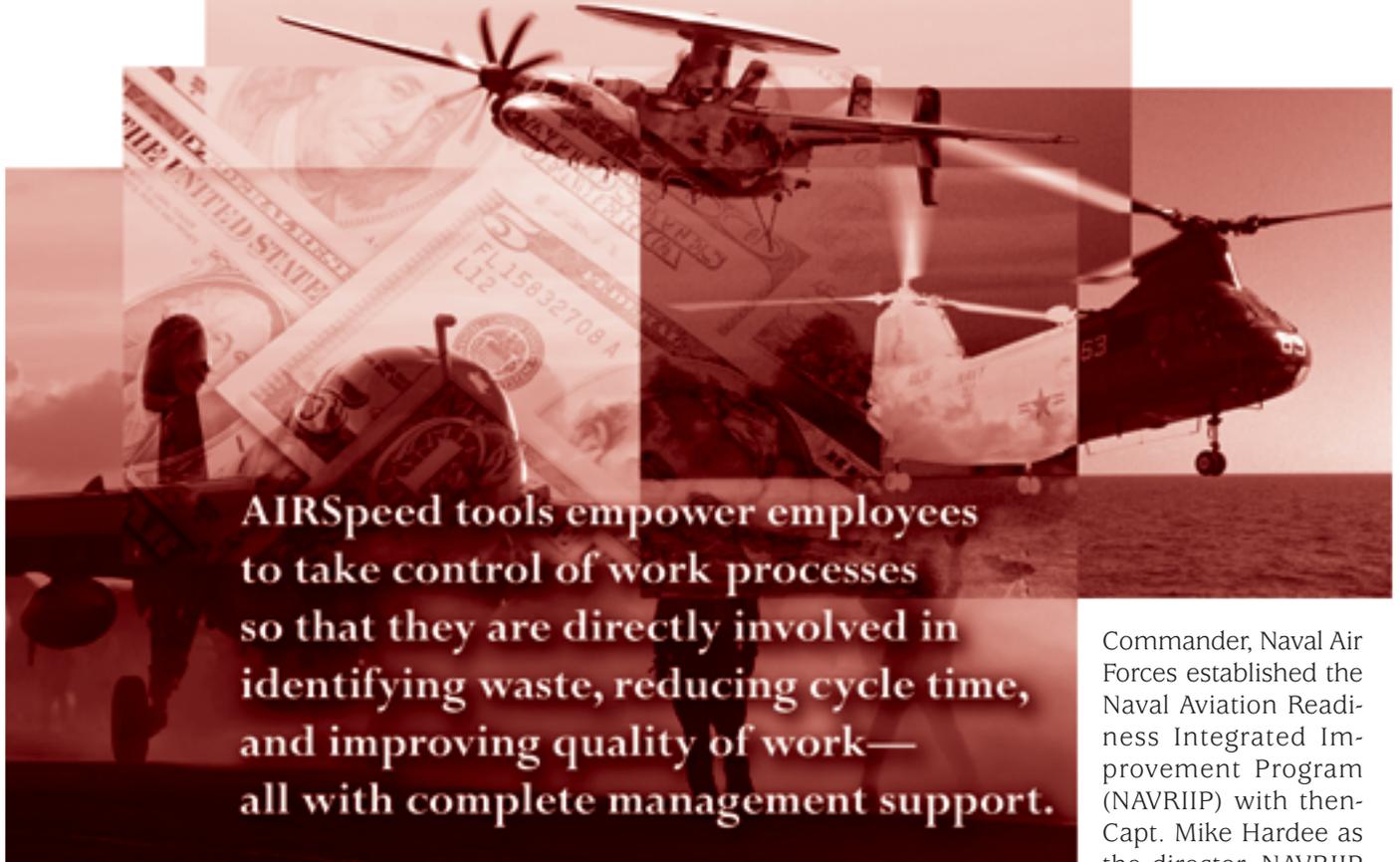
AIRSpeed tools empower employees to take control of work processes so that they are directly involved in identifying waste, reducing cycle time, and improving quality of work— all with complete management support.

Commander, Naval Air Forces established the Naval Aviation Readiness Integrated Improvement Program (NAVRIIP) with then-Capt. Mike Hardee as the director. NAVRIIP evolved into what is now AIRSpeed, a philosophy, strategy, and proven set of tools that will enable NAVAIR and the Naval Aviation Enterprise to achieve cost-wise readiness. It is a means of reducing the cost of doing business, improving productivity, and increasing customer satisfaction.

L
ike all Services within the Department of Defense, the Navy/Marine team was facing a readiness challenge. The chief of naval operations had directed a new fleet response plan to support fleet operations in the global war on terrorism. That meant the Naval Aviation Enterprise would have to support current levels of readiness while facing a budget shortfall. With an increase in operational tempo and the associated growth in the flying-hour program, Navy and Marine Corps unit commanders would conduct operations in a cost-wise readiness environment.

In October 2001, in response to this need, the Naval Air Systems Command (NAVAIR), in conjunction with the

Empowering with AIRSpeed Tools

AIRSpeed tools empower employees to take control of work processes so that they are directly involved in identifying waste, reducing cycle time, and improving quality of work—all with complete management support. The central tools for AIRSpeed are

- **Lean**, which eliminates waste and streamlines the number of steps in a workflow process

Broadus *is a DAU professor of systems engineering and acquisition management.* **Mallicoat** *is a DAU professor of life cycle logistics and acquisition management.* **Hardee** *is the commander, Fleet Readiness Centers, centered at NAVAL Air Systems Command, Patuxent River, Md.*

- **Six Sigma**, which uses statistical analysis to eliminate variation between what we deliver and what the customer expects
- **Theory of Constraints**, which eliminates process constraints so the workflow can focus on efficient operations.

They are well-known and capable tools, but to apply them effectively, AIRSpeed relies upon a methodology called DMAIC: **D**efine, **M**easure, **A**nalyze, **I**mprove, **C**ontrol. To understand how this framework promotes a standardized approach to improvement of processes across the Naval Aviation Enterprise, let's look at the elements more closely.

Define

Defining the problem begins with identifying the core business process being transformed, including where the process starts and stops. Further, it includes identifying the customer(s), what specific products and/or services they receive, and their specific requirements for those products and services.

Measure

The baseline performance of the core business process being transformed must be measured. It's necessary to develop a data collection plan for the process, collect data from many sources to determine current process performance, and compare this information to customer requirements to establish the process performance shortfall.

Analyze

The process is analyzed to determine the root causes for the current process performance shortfall. The root causes are prioritized based on the contribution to the process performance gap identified previously.

Improve

Improving the target process entails designing creative, innovative solutions to resolve the identified root causes.

Control

Finally, the improvements must be controlled to ensure the improved process continues to deliver the expected results. This involves developing and deploying an implementation plan, institutionalizing the improvements, and preventing a reversion to the "old way" by developing and implementing an ongoing process monitoring plan and standard operating procedures, among other tools.

Forging Stakeholder Relationships

But as we have all learned many times before, success is not driven solely by the processes, but by the interaction with the stakeholders in the process. With the stakeholder focus in mind, we visited Rear Adm. Michael D. Hardee, the commander of the Naval Aviation Enterprise Fleet Readiness Centers, to discuss AIRSpeed and stakeholders. Hardee's comments provided a wide range of insights into the importance of stakeholders in a change-driven environment.

A theme that runs throughout the DMAIC methodology, reflected in Hardee's comments, is the importance of stakeholders and the relationship that must exist to define and facilitate the numerous project changes required by a program such as AIRSpeed to achieve real, measurable improvements.

This theme aligns well to that of the Defense Acquisition University's stakeholder framework taught in the ACQ-452 Forging Stakeholder Relationships course: Understand who your stakeholders are; determine their and your programmatic and personal needs, expectations, and outcomes; assess what level of power and involvement they have relative to you; determine how best to establish and maintain a genuine stakeholder relationship; and provide the means to evaluate, improve, and refresh the relationship. (The course is described under "Spotlight on DAU Learning Resources" in the September-October 2007 issue of *Defense AT&L*.)

So from a senior management perspective, what is the stakeholder challenge for leadership when tackling a project of this magnitude? Hardee provided the following lessons learned and best practices applicable to the Naval Aviation Enterprise and AIRSpeed journey.

"Tell me how I am measured, and I'll tell you how I'll behave."

AIRSpeed involves a culture change where every local decision is aligned to its global impact on the organization and its stakeholders. Changing the culture involves chang-

NAVAIR AIRSpeed Savings, Jan. 31, 2007

$47M

$13.9M

Total Combined Type 1 & 2 Savings

FY07 Validated Savings

$7.8M

$6.1M

$ Amount in Millions

Type 1   Type 2
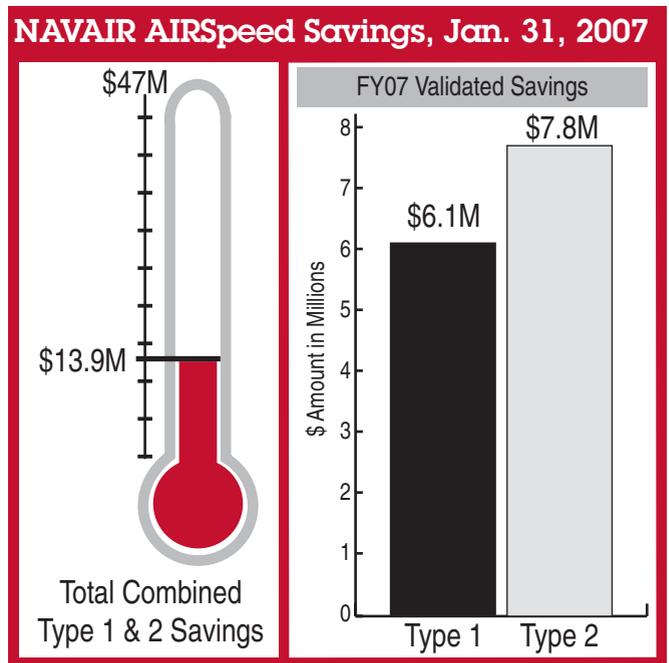
From Our Readers

EVMS: The Time-Lag Issue

I'm a great believer in the potential of Earned Value, and in "EVMS for Dummies" in the September-October issue of *Defense AT&L*, Wayne Turk provides us with a good article, clear and simple. The one thing that Mr. Turk neglected to point out is an inherent problem with EVMS (one typical of all program monitoring efforts). There is generally a time lag between when work is being performed and when the data are available for this work, made even worse with a further lag before EVMS reporting is conducted and then analyzed. When the time lag is too long, a situation can head south in a hurry leaving PMs scratching their heads and wondering what happened. PMs need to be aware of this built-in problem and look to see about reducing the lag so that EVMS can be a more effective tool in keeping programs on track. On the bright side, modern technology, if used to best effect, is helping to reduce this problem.

Alexander R. Slate, DAF
SAF/AQXD

The author responds: *I couldn't agree more. The longer the lag time, the less useful the information. Projects have to keep that lag time to a minimum. However, for most projects, the PM should be able to get usable data on a reasonable timeline. Extremely large programs may have a problem, and I don't have a good solution for timely data to help them. EVMS is still a necessary and useful tool for the large program PM, as well as for those managing smaller projects.*

Communications in Source Selection

I'd like to thank Alexander Slate for his efforts putting together the "Source Selection: Communicating with Offerors" article in the September-October issue. Its brevity provides a wonderfully useful introduction to the process. I have personally used it in preparing for a pending Mode S Testing Center request for proposal in cooperation with MLL Consulting. It is so helpful for a small business to be able to find succinct, high-level information about these processes.

Tony Robinson, President
Pressing Enterprises, Inc.

ing behavior, and changing behavior involves applying relevant measurement pressure to influence behaviors that will, in turn, effect a culture change. The metrics that measure and influence behavior are inventory, reliability, cycle time, and cost reduction.

With the culture of AIRSpeed, we can leverage proven industry practices to make measurable improvements in productivity/effectiveness. Systems engineering approaches force us to think more globally, from a system-of-systems perspective, in order to support the enterprise goals. I've realized that this isn't just about us, especially if we are truly interested in the right external results. Given that, continue to ask for extreme clarity on exactly *what* problem you and the teams are working together to solve. The troops deserve clarity of purpose. Get an agreement to manage problems not through fear, but through knowledge of the facts that drive the right external results for the organization.

"Create a high-trust support group."

Surround yourself with the best: core staff, industry mentors, grey beards, think tanks, contractors, and subject-matter experts from throughout the organization (horizontal and vertical).

"Engage in the process."

Remember, your stakeholders are horizontally and vertically aligned with you: senior leadership, middle management, and the deckplate level. It is important to engage

NAVAIR Fleet Readiness Centers' Contributions to Weapon System Readiness

FRC Southeast
P-3 program reduced turnaround time by 24 days and reduced work in progress by five aircraft
EA-6B program reduced work in progress by eight aircraft and reduced cycle time by 18 percent

FRC East
H-46 program reduced turnaround time by 35 days
H-53 program reduced turnaround time by 145 days

FRC Southwest
F/A-18 PMI 1 program reduced turnaround time by 50 days and reduced work in progress by 12 aircraft
E-2 PMI 2 reduced turnaround time by 20 days and PMI 1 reduced turnaround time by 65 percent

AIRSpeed relies upon a methodology called DMAIC: Define, Measure, Analyze, Improve and Control.
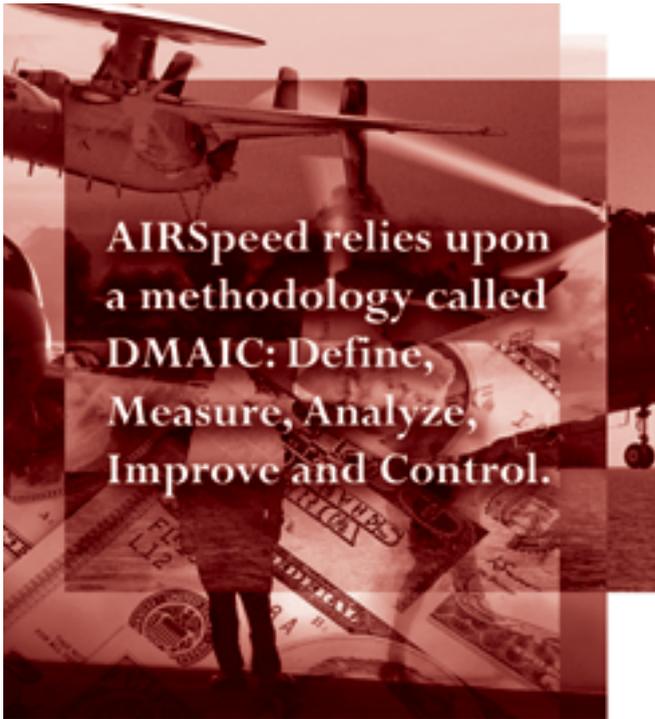
them all in the process and establish relationships with a view to maintaining them as organizational assets:

- Use positive reinforcement that rewards risk takers who deliver results.
- Ensure that empowered participants are part of the team.
- Ensure that those responsible for using analysis tools during events understand their roles and responsibilities.
- Compute a "Figure of Merit" for each gap-closure action.
- Share "Cycles of Learning" throughout the organization: Push that information out; don't wait for it to be pulled—you need to celebrate and popularize successes (horizontal and vertical).
- And be prepared to learn from getting lost.

"Don't just be the change, *lead* the change that will shape behavior."

Leverage existing process improvement initiatives as you shift to a customer demand-based pull system. Use time to reliably replenish process cycle time and work in progress as your metrics in transparent displays of knowledge management. Use inventory buffers based only upon customer demand.

"Know what's getting in your way."

Establish cross-functional teams to determine best designs and outcome intent, and create innovation cells focused on removing stumbling blocks. It is important to determine what functions need to be included, not what activity. Functions produce products/results; activity doesn't always. In addition, create barrier-removal teams to attack barriers and implement solutions, brainstorming

those solutions to close performance gaps and establish an atmosphere of fixing the problem, not the blame. Prioritize barrier-removal activities, and attack the barriers in sequence. Manage the flow of work by importance, not urgency—this is a hard one, but it's critical.

"In the end, only three things matter: knowledge, execution, and results."

By managing your stakeholders and their expectations you will find that AIRSpeed:

- Engages all your stakeholders
- Builds cross-functional teams
- Improves communication
- Develops a coherent mapping process
- Identifies and removes non-value-added steps
- Identifies, ranks, and prioritizes constraints and barriers that really matter
- Implements, plans, and installs integrated metrics
- Capitalizes on commercial best practice tools
- Returns cost savings for recapitalization.

The Report Card on AIRSpeed So Far

The program set a goal of achieving $47 million dollars this fiscal year in either Type I or II benefits. Type I benefits are hard savings—permanent cost reductions identified to budget line items; Type II benefits are soft savings—potential cost reductions from decreased cycle times or improved equipment/space utilization. The graphic on page 21 shows the progress made towards this goal as of January 2007.

All savings can ultimately be expressed in terms of cost, but understanding the perceived value of AIRSpeed is sometimes better expressed in terms of performance improvements associated with turnaround time, numbers of aircraft processed during a period of time, or decreases in work in process. The performance of the NAVAIR Depot contributions to weapon system readiness as of October 2006 is summarized in the sidebar on the preceding page.

The ultimate goal of AIRSpeed is to make a lasting and profound logistical and cultural change in the way we do business (operations, maintenance, and supply) across the entire Naval Aviation Enterprise. Leadership, including effective stakeholder management, is the key to the success of AIRSpeed and the viability of Naval Aviation for the future.

There is a wealth of information not only on processes and tools, but also on AIRSpeed successes at < www.navair. navy.mil/navairairspeed > .

The authors welcome comments and questions and can be contacted at william.broadus@dau. mil and duane.mallicoat@dau.mil.

Tips for
Independent Review Teams

Richard L. Donnelly ▪ *Nicola A. Nelson*

Independent review teams of government acquisition programs are here to stay. However, the interaction between the IRT and the government program acquisition staff has pulls and tugs of responsibilities and resources, and it has the potential to be unpleasant and unproductive.

An IRT is a team of individuals with various skills and applicable experience who are chosen to review a program with which they are not associated, at least in a day-to-day sense. Usually, their assignment is levied as an addition to their normal responsibilities, so they may feel stressed by additional duties and overwhelmed by documents to read, meetings to attend, and briefings and reports to create.

Often, the independent review is concurrent with major program reviews or milestones such as design reviews, test readiness reviews, or preparation for initial operations. Since this is also a very busy time for the contractor and government program acquisition office, personnel often greet the announcement of an IRT creation with groans about time wasted and resources unnecessarily spent.

How can this situation be turned into one that is positive and actually accomplishes something useful? We think IRT members and government program acquisition managers can benefit by keeping a few simple tips in mind.

Contractor and government program acquisition office personnel often greet the announcement of an IRT creation with groans about time wasted and resources unnecessarily spent.

The IRT's Point of View

Let's look at a fictional character, Jim, who has just been assigned to be an IRT member on the imaginary ASTER program as it approaches a critical design review. At the first team meeting, he learns that there are approximately 100 program documents in the program library, ranging from top-level system specifications to detailed hardware drawings and software design folders. He will be expected to travel to the contractor's location to attend a three-day meeting and participate in creating and attending out-briefs to the contractor, government program acquisition office, and the head of the organization that requested the IRT. The contractor, busily preparing for the design review, is adding and updating documents daily. And the acronym list is already six single-spaced pages. Jim has to deal with all this in addition to his job as principal investigator on the equally imaginary ZINNIA program.

The Acquisitions Manager's Point of View

But think of Jane, a fictional government program acquisition manager of the ASTER program. For three years, she has devoted her working life to making sure the program runs smoothly, accomplishes its goals, and meets budget and schedule requirements. Sure, there are a few technical risks in the program and possibly some code and hardware that may be delivered late, but the contractor is working hard to keep things on track, and Jane has competent technical support personnel overseeing the contractor's work. Jane doesn't think her program needs an IRT, and her acquisition staff is under considerable time, schedule, and financial pressure as this major review approaches. She cannot spare contractor or staff personnel to educate and attempt to respond to the IRT's questions and concerns.

Tips for the IRT Team Member

How do we keep both parties from making this a bad situation? Let's look at Jim first. What tips do we have for him? First, he should work with his supervisor and the IRT leader to plan his travel, delegate or postpone as many other responsibilities as possible, and budget his overall time and energy. He should make sure he understands the IRT charter, scope, and goal. For example, will the IRT consider cost and schedule, or will it have purely a technical focus? Is the IRT output purely advice, or does it have go/no-go authority? Does Jim have a specific assignment for the IRT, such as reviewing software, or is he expected to find and focus on any potential issues or risks?

We suggest Jim approach his task with the expectation that the government acquisition office, along with the contractor, will provide strong management to the program. It is rare that an IRT is chartered to review government management processes or personnel. Even though he may feel that he might have managed the program differently, Jim should focus on fundamental review approaches, taking a fresh, systematic, and complementary look at the program and its components.

An example of a useful IRT finding is, "The program has good software design processes, but these processes were not followed in the operations module." An example of an unhelpful finding is, "The program manager should have noticed a long time ago that software design processes were not always being followed."

Too Much Material, Too Little Time

How does Jim cope with the huge amount of material he is expected to absorb? This depends somewhat on how familiar he is with the ASTER program and how broad the scope of his review is expected to be. One tip we have found useful is to find a theme or methodology and use it to provide context for documents and briefings. The most straightforward theme is design correctness and completeness. However, Jim's technical background most likely won't cover all the program design areas for which the IRT is responsible. One good theme is to review external interfaces by reading interface control or interface design documents, looking for completeness, correctness, consistency, and maturity — including resolution of items not yet specified — and signoff by the external organization. After all, it's always interesting to look at the signature page of interface documents.

Another method is to think chronologically and review the progress from design to development, integration, test, and transition into operations. What happens next, and how does it all tie together? Verification and test can be a theme in itself, ranging from finding requirements that can't be verified; to analyses that haven't been planned for, are incomplete or incorrect, or are behind schedule; to tests that need special equipment not budgeted for.

Tips for a Productive Independent Review

1. Delegate or postpone team members' regular assignments.
2. Ensure government program manager is aware of review team charter and roles.
3. Focus on fundamentals; take a system view of the program.
4. Use a theme to assess and evaluate data and presentations.
5. Ask questions; don't assume inconsistencies are just simple errors.
6. Strive to identify what's missing as much as what's presented.
7. Ask the program for top ten concerns.
8. Be attentive to all presentations.
9. Be curious and connect the dots.
10. Consider the program impact of possible government changes in direction.

Some reviewers may look for driving requirements—if they are being met and within what margin. Jim most likely knows the theme he is comfortable with—after all, many of us use one in our regular work—and this should help him maximize his understanding of the program documents he reads.

Another tip is to always ask questions if something seems incorrect in the document. Never assume it is a typo or that the paragraph is clear to everyone else. Finally, Jim should do what is the hardest task for an IRT, but potentially the most useful—determine what documents might be missing in the material he reviews.

Tips for the Acquisitions Manager

While Jim is reading documents, what advice can we give Jane? Our primary tip for Jane is not to consider an IRT as questioning her professional ability, but to use it as an additional resource available to her. The IRT can increase her management awareness in areas she may not have had time or staff to investigate. To this end, it is sometimes useful to provide the IRT with a summary of her top 10 worries, along with a separate list provided by the contractor. She should understand the IRT's members' backgrounds—perhaps they bring knowledge of a similar program or a technology that could be useful to the contractor. Jane should not try to hide or gloss over risky or unsuccessful areas within the program. A good IRT will find them anyway and may be suspicious that Jane and her staff are covering up other problem areas. Jane should reassure the contractor that she will do her best to serve as mediator between the contractor and the IRT. She can do this by meeting with the IRT or its leader, explaining how

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> Contractors wanting a successful program outcome will welcome an independent look at potential risks or issues.

her resources are being used and understanding what the IRT needs to do its job. It may be desirable to have the contractor chief engineer or program manager at that meeting because he or she may be aware of corporate resources available to provide background and program education to the IRT.

What Should Happen at the Review

This brings us to the actual review. Jim can continue to use his theme to aid him in following the briefings and discussions and to spot areas that the IRT may question. He should also watch the body language of the presenter and those at the front table. It is important that Jim listen to every presentation, even if it is not in his technical field or review area. He may pick up clues about risks or problems that were not in the documents he read. Jim should never leave the review early, no matter how long and dry the presentations are. The IRT represents a valued effort by the government and deserves Jim's full attention. Finally, Jim should not let a briefer or a manager in a hurry stop him from going back to clarify a point. He should take time to understand slides that trouble him, trusting his professional instincts and following his curiosity. This may mean that a side session with program personnel is in order, as long as Jim doesn't miss too much of the main presentation. Again, one of Jim's most important contributions is to ascertain what is not discussed or is missing from the presentations.

Jim should keep in mind that many program problems relate to government actions such as requirements changes, funding difficulties, or shortfalls in government furnished equipment. He should look for the problems and how the program addresses them if they exist.

Dialogue between the presenters and the IRT before and during the actual review is critical and should be encouraged by Jane. It is always worrisome when, instead of the contractor, the government program acquisition office answers questions at a contractor-led review. It is not the IRT's task to review how well Jane and her staff can answer the IRT's questions. If that were so, the IRT would conduct a review with her program office and there

would be no need to involve the contractor. Instead, the IRT should request that questions be answered by the contractor. This helps better assess the contractor's ability to successfully execute the program. In addition, the contractor will benefit from the viewpoint taken by the IRT and expressed in the members' written or verbal questions and comments. The rationale behind appointing an IRT is that the members are unbiased and have a different perspective from those who are responsible for day-to-day management and execution of the program. They also possess experience and lessons learned from other relevant programs.

Contractors wanting a successful program outcome will welcome an independent look at potential risks or issues. They will also welcome the opportunity to prove that questions can be easily answered and the potential risk has already been mitigated. And it may be that even if the question is easily answered, the thought process or document review that produced the question may show the program office and the contractor a new way of assessing their program. If dialogue is shut off, the reviewer may give up, even if the reviewer thinks the question is valid. Or the reviewer may try to find an answer to the question without involving the program acquisition office. The reviewer may assume the worst when there is actually no cause for concern. None of these results is the desired outcome of an IRT.

The Completed IRT Assessment

Once the review is over, the IRT presents its findings. In general, the IRT, of which Jim is a member, agrees with the known program successes and risks and congratulates the contractor and government acquisition staff on completing a successful CDR. The IRT also provides information on a hardware problem affecting another program using a similar design and suggests further risk mitigation tasks to be considered by the government and the contractor. Jane has the opportunity to set up a series of technical meetings between one of the IRT members and the contractor about a technology they are considering for a follow-on upgrade.

The IRT disbands. Everything gets back to normal, until a few months later, when Jane gets an e-mail requesting her presence on an IRT which will review the ZINNIA program during preparations for its test-readiness review. Jim is leading the ZINNIA efforts. Jim and Jane's roles are reversed, but they've learned from each other in the review of the ASTER program and will successfully continue the IRT cycle.

DFMA Helps Improve
A Future Combat System Missile

Steve Watts ▪ Keith Harbin ▪ Chris Farmer

Design for manufacturing and assembly (DFMA) is a proactive and concurrent design process that allows for early consideration of manufacturing aspects, especially with the Army's Future Combat Systems (FCS). In the DFMA process, a cross-functional team works to optimize the design for cost-effective manufacturing. The use of DFMA workshops should be an integral part of the overall systems engineering process. The workshops are most effective when conducted prior to the critical design review, allowing changes to be incorporated to the design, although cost-saving benefits can be realized by conducting workshops during low-rate initial production and cost-reduction efforts.

The DFMA workshops are a brainstorming activity, generating numerous ideas that ultimately may or may not be incorporated. The ideas resulting from the DFMA workshop should be fed into the trade-study process for formal consideration. This makes the trade-study process more efficient, even for ideas that are not incorporated, by clearly defining producibility versus performance trade-offs.

The DFMA workshops should consist of multiple functional disciplines with the specific goals of improving the design, allowing for easier assembly processes and less-costly manufacturing processes while still satisfying performance requirements. The workshops focus on how to standardize components and materials, avoid difficult components, use self-locating features, minimize operations and process steps, avoid blind assembly steps, and reduce the number of parts needed. In particular, reducing the number of parts can result in significant costs savings, especially since an eliminated part reduces the costs associated with purchasing, shipping, inspecting, performing inventory, kitting, and assembly. Also, an eliminated part means no worrying about its being shipped late or being defective.

It is important to understand that the DFMA process is not a quick fix or a magic bullet, and it will not necessarily solve all the average unit production cost issues. Because

> The DFMA workshops should consist of multiple functional disciplines with the specific goals of improving the design, allowing for easier assembly processes and less-costly manufacturing processes while still satisfying performance requirements.

weapons systems that are developed must protect the lives of American warfighters, the performance, safety, and reliability requirements will take precedence and usually cannot be traded for cost savings.

Benefits of DFMA

The most significant benefits of DFMA are the tangible results in avoiding potential manufacturing problems and reducing manufacturing costs in production. However, DFMA also provides several important, intangible benefits such as improving communication within the entire design team, promoting teamwork, and increasing organizational ownership. The DFMA activity brings manufacturing personnel into the design cycle very early and allows for the incorporation of knowledge, insight, and perspective that the traditional design engineers may not have considered. Experience shows that design engi-

Watts is a technical team leader in the Production Engineering Division, Engineering Directorate, U.S. Army Research, Development, and Engineering Command, Redstone Arsenal, Huntsville, Ala. Harbin is the NLOS-LS Production Engineering and Quality Assurance team lead in the NLOS-LS Project Office, Program Executive Office for Missiles and Space, Redstone Arsenal, Ala. Farmer is a production engineer in the Production Engineer Division, Engineering Directorate, U.S. Army Research, Development, and Engineering Command, Redstone Arsenal, Huntsville, Ala.

neers perform an excellent job in considering options and alternatives. However, they cannot foresee everything.

DFMA workshops also provide everyone on the development team a sense of ownership in the design. Manufacturing personnel now have an understanding of the design and its associated requirements. While manufacturing personnel may still have to live with designs that are not optimal from a production standpoint, they understand why the designs are not optimal and have had the opportunity to provide their input. This eliminates the brick wall syndrome, in which designers hand off a design to manufacturers with little or no communication.

DFMA Supports DoD Acquisitions Requirements

DoDD 5000.1 and DoDI 5000.2 require that acquisition programs be managed through the application of a systems engineering approach and be designed for producibility. In addition, the July 2002 General Accountability Office Report 02-701, "Capturing Design and Manufacturing Knowledge Early Improves Acquisition Outcomes," stresses the importance of early consideration of manufacturing aspects in the design process to provide a better opportunity to achieve predicted cost, schedule, and quality targets.

Numerous lower-level requirement and guidance documents have identified best-practice approaches to satisfy these requirements. One of the most prevalent is concurrent engineering, which is a systematic approach to the integrated concurrent design of products and their related processes, including manufacture and support. This approach makes developers consider all elements of the system life cycle, from requirements development through disposal, including cost, schedule, and performance.

The principles of concurrent engineering are sound and are designed to eliminate the brick wall syndrome. The problem comes with how to effectively apply these principles. DFMA workshops serve as an excellent best practice tool to incorporate concurrent engineering principles. What follows is an example of how DFMA effectively helped improve a future combat missile.

Applying DFMA to NLOS-LS

The Non-Line-of-Sight Launch System (NLOS-LS) is a core part of FCS. It consists of vertically launched precision-attack missiles (PAMs) and a highly deployable, platform-independent container launch unit (CLU) with self-contained tactical fire-control electronics and software for remote and unmanned operations. Each CLU consists of a computer and communications system and 15 PAMs, and each can be fired from the ground, vehicle, or ship.

The PAM is a direct-attack missile that is seven inches in diameter, weighs approximately 117 pounds with a 45-pound container, and is effective against moving and stationary targets at ranges from zero to 40 kilometers. It will include a boost-sustain motor; a dual-mode, precision, uncooled infrared/semi-active laser seeker; and a large multi-mode warhead that is effective against both hard and soft targets. The missile will receive target information prior to launch and can receive and respond to target location updates during flight. It will support laser-designated, laser-anointed, and autonomous operation modes, and it will be capable of transmitting near-real-time information in the form of target imagery prior to impact. The PAM is designed to defeat heavy-armored targets.

The NLOS-LS program is midway through a five-year system development and demonstration (SDD) program. The program is managed by the NLOS-LS Project Office of the Program Executive Office (PEO) for Missiles and Space, located at Redstone Arsenal, Ala. The NLOS-LS system is being developed by NetFires, Limited Liability Corporation (LLC), which comprises of Raytheon Missile Systems in Tucson, Ariz., and Lockheed Martin Missiles and Fire Control in Dallas, Texas.

The NLOS-LS program implemented a robust producibility engineering and planning statement of work to promote producibility and manufacturing planning in the development program, and the program required that producibility be considered in all design decisions. The statement of work required the contractor to conduct DFMA workshops on the NLOS-LS assemblies and major subassemblies. Because weapon system prime contractors often acquire critical subassemblies from suppliers, the flow-down of this requirement to major subcontractors is critical. Early planning discussions between the government and contractor on implementing this requirement were crucial to the overall success. Although the details as to how to implement the DFMA workshops were not dictated in the statement of work, many major defense companies are very knowledgeable in this area

> The most significant benefits of DFMA are the tangible results in the avoidance of potential manufacturing problems and reduced manufacturing costs in production.

and have internal organizations designed to execute such activities. In addition, there are a number of consulting companies that specialize in this area and can offer beneficial services.

Upon award of the NLOS-LS SDD contract, Raytheon Missile Systems immediately employed an internal producibility division to implement, manage, and facilitate the DFMA workshops. The producibility division selected skilled individuals, independent of the NLOS-LS program, to support these activities. For the next couple of years, the Raytheon Missile Systems and Lockheed Martin Missiles and Fire Control teams conducted workshops on the missile and launcher with support from both the supplier and management. Having first-class knowledge of the DFMA methods and philosophy, the teams maximized the effectiveness of each workshop. In addition, these events forced essential communication early in the life cycle of the program and resulted in a solid and unique relationship between the supplier, contractor, and customer.

How to Prepare for a DFMA Workshop

Several pre-workshop activities must take place in order to ensure a valuable event. These activities include workshop planning and work preparation; a baseline for the workshop must also be provided. Planning consists of identifying goals and objectives, preparing a schedule (because staying on track can be challenging), and most important, composing the appropriate attendance list. Attendance lists should be broad, cross-functional, and all encompassing. For example, it's beneficial to include a member from every discipline that touches the product. Design engineers, manufacturing engineers, shop-floor employees, material handlers, and facility managers represent a good mix of personnel. However, each event will be unique, so it is imperative that the right formula of personnel be obtained. Successful workshop preparation consists of collecting appropriate documentation, drawings, hardware models, cost information, and workshop supplies. For example, team members with ideas need a means to immediately capture them. Providing a baseline for the workshop involves informing every participant of what to expect. This requires reviewing the current design and discussing the principals, methodology, and tools of DFMA. Once these details are finalized, the workshop can begin.

Conducting a Workshop

The first step of the workshop is to discuss the current design openly. Participants should be made aware that this is done using a formal academia environment and that scrutinizing the design should not offend anyone. Discussion is a notable way to identify non-essential and non-value-added design features, as well as isolate complexity drivers. It is important to remember that the team is not trying to solve every design issue during this workshop. Rather, they should use the workshop setting as a vehicle to discuss issues and apply creative reasoning to them. Once room-for-improvement areas have been identified and discussed, the team can begin brainstorming ideas. During this activity, all ideas should be captured regardless of complexity, simplicity, or feasibility.

As soon as ideas and concepts have been captured, the team can apply a form of technical evaluation to each idea. This process gives the team an opportunity to assign priority to specific metrics of the design—technical, manufacturing, cost, weight, etc. Following this exercise, it is imperative that the team determine how the ideas impact the current design, whether they are positive, negative, or have no effect. For instance, a reduction in fasteners will have no impact on technical matters, a positive impact on manufacturing, a positive impact on cost, and a positive impact on weight. When all ideas are assigned impacts, the team can sort them to distinguish the simple ideas from the complex ideas. This exercise will assist in determining what ideas should be explored for implementation into the design.

The follow-up phase is the designated time to appoint actions to team members, analyze any quality improvements, calculate cost savings, and discuss implementation of the resulting ideas. The event is concluded by

An artist's rendition of the Non-Line-of-Sight Launch System (NLOS-LS).
Dept. of the Army illustration

> **The NLOS-LS program has seen benefits of reduced assembly and test-time estimates and reduced average unit production cost estimates in many areas. The program has also seen intangible benefits through the establishment of a true concurrent engineering environment during development, with improved communication and overall team buy-in.**

presenting management with the number of ideas generated, a candidate list of ideas to be explored, potential cost savings, potential reduction in assembly times, and any key lessons learned during the event. It is important to note that the follow-up phase is hard to define because it extends beyond the formal workshop. The team members should continue to focus on the ideas generated, monitor progress of action items, and avoid losing sight of the DFMA goals, even after the workshop has concluded.

Key Lessons Learned

Upon completion of a DFMA workshop, the facilitator should take the opportunity to poll the team for any suggestions and lessons learned. While each DFMA workshop is unique in its own way, there are a number of lessons learned that resonate time after time. First, always have a facilitator to orchestrate the workshop. This individual can be from an outside agency or from an internal organization, but it does help to have someone independent of the program or design. A good facilitator can sense when the event is beginning to transgress and make appropriate changes to redirect the group. Second, attendees from various functional backgrounds and disciplines are essential to a successful workshop. Look for individuals who can be creative and think outside the

box. Additionally, the knowledge of a shop floor worker or shop floor manager can be priceless in this environment. Third, always be respectful of everyone's thoughts and ideas. If respect is not observed between team members, communication will not flow. Last, but certainly not least, try to have fun at these events. It's a good idea to step away from the everyday grind, clear your mind, and have a good time.

NLOS-LS Program Results

The strong management commitment from the NetFires, LLC, has resulted in a successful DFMA activity. A total of 16 workshops were conducted on the PAM, container launch unit, and major subassemblies, generating more than 360 ideas for evaluation. Of these, 112 have been incorporated into the NLOS-LS design. Examples of the ideas incorporated include:

- Combining primary mirror and telescope housings to reduce parts count and eliminate assembly operations
- Reorienting torquers for accessibility
- Developing better identification of pins to prevent incorrect placement during assembly
- Redesigning the removable forklift structure to eliminate the need for special tooling
- Making all electronic unit circuit card assembly heat sinks identical for standardization.

It is often difficult to accurately quantify the exact cost savings of DFMA activities during SDD because the baseline is an estimate. The true results of this DFMA activity will not be fully recognized until rate production is achieved several years in the future. However, the NLOS-LS program has seen benefits of reduced assembly and test-time estimates and reduced average unit production cost estimates in many areas. The program has also seen intangible benefits through the establishment of a true concurrent engineering environment during development, with improved communication and overall team buy-in. The incorporation of DFMA in the development program has played a major role in obtaining a successful critical design review and in serving as a vehicle for the implementation of the DoD regulation requirements to establish producibility as a design priority.

The authors welcome comments and questions and can be contacted at charles.s.watts@us.army.mil, keith.harbin@us.army.mil, and chris.farmer@us.army.mil.

Peer Reviews, Advanced Capability Build Process, and Open Architecture Processes

William M. Johnson

The Naval Open Architecture initiative represents an entrepreneurial approach to acquiring and fielding capabilities to the warfighter that takes advantage of new technologies as they emerge. This approach must be affordable, and it also must allow the Navy to maintain a decisive advantage over the United States' increasingly sophisticated and diverse adversaries. The key to success is flexibility in both technology and business processes to enable the selection, program execution, and delivery of the best and most innovative products to the warfighter. This article provides a practical and proven approach to leveling the playing field when evaluating possible technologies. Although the examples given are from the Navy, the concepts and processes can be made applicable throughout the Department of Defense.

Reviewing Alternate Solutions

In the late 1990s, the submarine community's Acoustic Rapid Commercial Off-The-Shelf Insertion program developed a very successful process to evaluate possible technologies, featuring peer reviews of alternative solutions. In this process, the performance of each alternative is measured using actual system data from operational deployments. Both open data sets (signatures known to the developer prior to user review) and closed data sets (signatures revealed only during testing) are used in the evaluation process. When data from operational deployments are not available, then a simulation must be used. However, it is imperative that this simulation faithfully replicate the real-world environment.

Peer review groups are components of a larger working group—the system working group—whose primary objectives are developing and overseeing the implementation of a coordinated set of plans and processes aimed at resolving specific system performance issues and identifying system shortfalls, selecting the best solutions, and establishing the proper feedback processes and tools to enable a data-driven build-test-build approach to continuous sub-system performance improvement. A notional model of a system working group is shown in the graphic on page 33.

The July 2006 *Naval Open Architecture Contract Guidebook* defines a peer review as "a refereed, open process used to assess technical approaches proposed by or being used by vendors. Reviewers are normally drawn from a cross section of the community of interest with government, academia, and/or private sector entities such that the membership (taken as a whole) is unbiased and impartial.

Johnson is the former deputy major program manager for Future Combat Systems Open Architecture in the Program Executive Office for Integrated Warfare Systems.

An 'independent peer review' is one where the membership includes individuals from outside the program being reviewed. Membership is structured to achieve a balanced perspective in which no one organization is numerically dominant. Consensus is a goal, but the peer review group's findings or recommendations to the decision maker normally consist of a majority opinion and a documented dissenting opinion if the minority chooses to formalize its concerns. This assessment process normally results in findings or recommendations presented to the decision maker with the authority and responsibility to select or make the final course of action or decision." The final decision maker is ultimately a Navy program executive officer.

How Peer Reviews Work

Peer review groups address the functional and technical issues leading to recommendations for improvements based on the Navy fleet's inputs. The peer review groups provide recommendations to the system working group on research and development priorities, including tasking requests for each funded organization, and also provide independent test and evaluation of alternatives. Peer review groups collectively survey, develop, and test the alternatives and monitor progress through completion of the evaluation process. The program office lead of the system working group determines what peer review groups are needed and then identifies the chairperson and membership for each group.

Peer Review Membership

Selecting the leadership and the membership of a peer review organization is critically important. Membership selection criteria are based on the talents, experience, and capabilities of the individuals rather than on their organizational ties. Peer review teams should be formed of experts from government, industry (including competing solution providers), and academia.

System Working Group
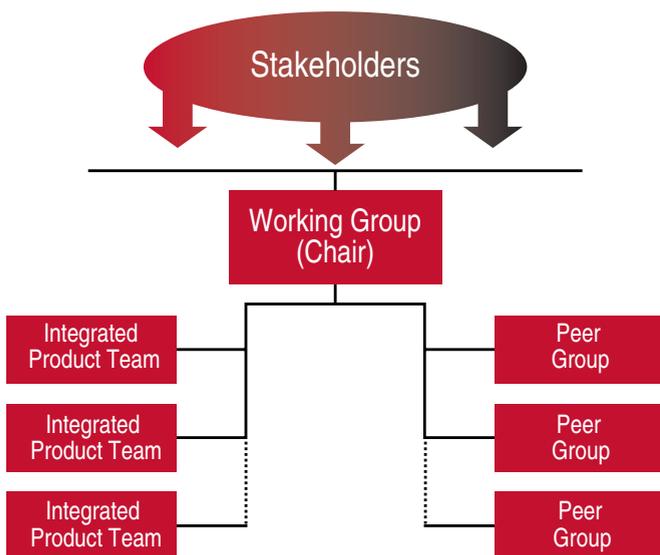
Typically, a peer review group is composed of 10 to 12 members. These experts are drawn from a pool of resources that are funded through existing contractual relationships with the government—thus their participation doesn't represent a new cost. It is the responsibility of the program office, working with the peer review group chair, to ensure that the composition of the group is appropriate and effective. Membership changes can and should be made to address group performance issues.

The Successful Peer Review Group

Well-run peer review groups build early and interactive bridges between the operational fleet, acquisition communities, and technology providers by making transition recommendations based on performance, with oversight from the system working group. When properly implemented, peer review groups solicit the best ideas available from a broad knowledge base. Membership in peer review groups is based on technical credentials, and their chairpersons are chosen typically by the Navy program sponsor or their designated representative for their objectivity and leadership ability. Members have equal status within the group and generally are drawn from a diverse set of organizations. Because of this diversity, the peer group must develop and use common metrics for performance evaluations. Usually, significant up-front time is spent defining relevant metrics and ensuring that the definitions are specific enough to enable all organizations to compute the metrics in the same manner.

The peer review process works best as a performance meritocracy in which candidate technologies are evaluated with common metrics and common data (open and closed). A peer review process should foster spirited debate between participants presenting their own views based on their organizations. Peer group members should solicit information from other organizations that are brought in via an open process.

It often becomes apparent that the best solution is the result of aggregating many inputs. This collaborative development may be difficult to manage due to the pride of ownership of the parties involved, but in the end, results in a better product.

Incorporating peer reviews into system acquisition life cycles entails a significant change in culture—one that recognizes that no one organization has all the answers and that collaborative and competitive processes with free-flowing information are efficient for realizing improvements cost effectively. Provisions for conducting peer reviews should be built into a program's acquisition strategy, request for proposals, and the associated contractual documents. However, peer reviews are not intended to be a bureaucratic exercise. Rather, peer reviews are put together only when the program reaches a juncture at which decisions or recommendations must

Peer review groups collectively survey, develop, and test the alternatives, and monitor progress through completion of the evaluation process.
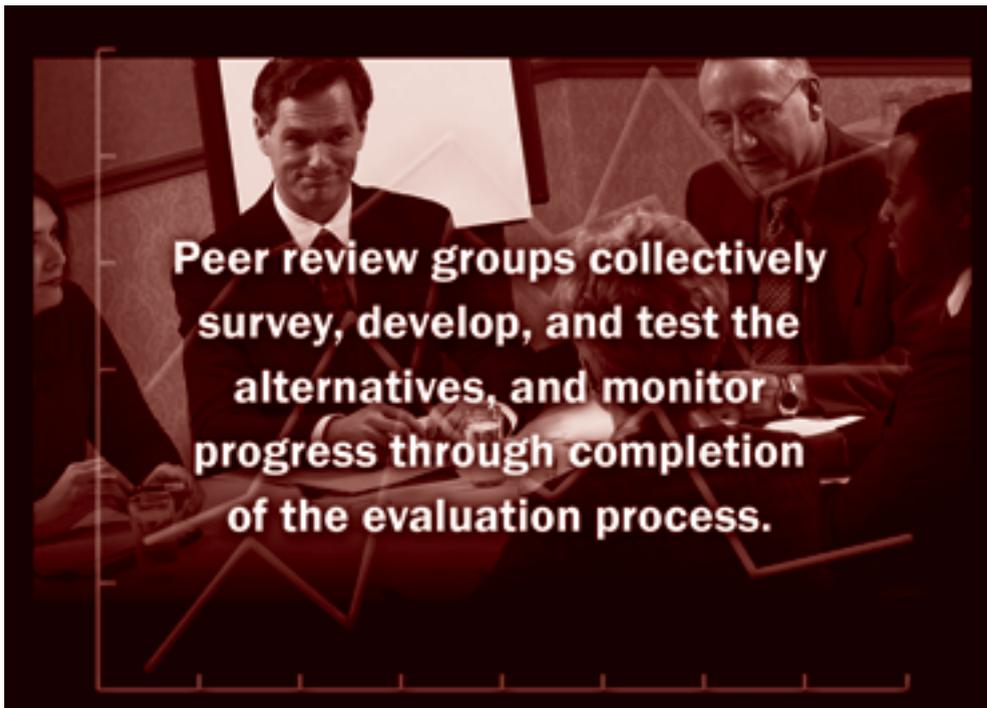
This step is unique in that the developers submit technology for testing with the expectation of useful feedback from the testing process. This step helps reduce risk, affording time to work technology and concept-of-operations issues asynchronously at the technology level before testing in an integrated system under more significant time constraints. Technology promotion to the next ACB step is based on successful performance as determined by the peer review group. In some cases, hardware technologies that are based primarily on commercial off-the-shelf components without extensive modifica-

be made among technology or business approaches to solve emerging warfighter issues.

The ACB Process

Peer reviews are an essential part of the overall advanced capability build (ACB) process, which ensures adequate requirements definition and testing at the advanced development stage. This process represents a fundamental change in Navy acquisition strategy by seamlessly coupling advanced development to engineering development, leading to significant savings through early technology testing, software re-use, and a reduction in lead time from concept to fleet introduction. What follows is a summary of the four basic steps required for ACB development.

Technology Evaluation

The first ACB step involves a survey of promising technologies from the research and development community. The goal here is to consider technology developed by the Navy, other DoD agencies, and industry to determine their tactical importance, maturity, expected performance, and computational resource requirement.

Technology Assessment

The next step is a test of relatively mature technologies that promise to provide performance improvements to the fleet. Using real-world data sets collected from U.S. Naval exercises and provided by the Office of Naval Intelligence, this testing provides a projection of technology performance under real-world conditions. Experience has shown that testing on synthetic, or developed, data is insufficient for uncovering the problems of many technologies in actual fleet use.

tion may satisfy this step's requirements through benchmark testing. At the discretion of the peer review group and with concurrence of the system working group, these technologies may be deemed suitable for integration into the system baseline without going through the third ACB step.

System Real-Time Implementation

In the third ACB step, technology is passed to an integration agent for incorporation into the target system. In order for this to occur, the system must meet the open architecture technical principles. The tests in this step are conducted by a test, evaluation, and assessment support group (TEASG) that is organizationally located within the system working group. This provides an opportunity to independently test for compliance with performance requirements as well as to verify the second ACB step results. It also serves to introduce fleet representatives to new features in an end-to-end context and provides for fleet feedback. Similar to the second ACB step, real-world data are used for this testing. Any identified issues resulting from the testing are forwarded to the integration agent for resolution prior to at-sea testing. Independent testing of the ACB product is a critical step in the build-test-build process. It ensures readiness for at-sea testing and provides confidence for the community contributors that their ideas have been implemented properly.

At-Sea Testing

The final ACB step involves an at-sea test, and it is conducted by the TEASG. This is the most important phase of testing prior to inclusion of the technology in the

Is Your Project On Track?

Making the Most of Metrics

Wayne Turk
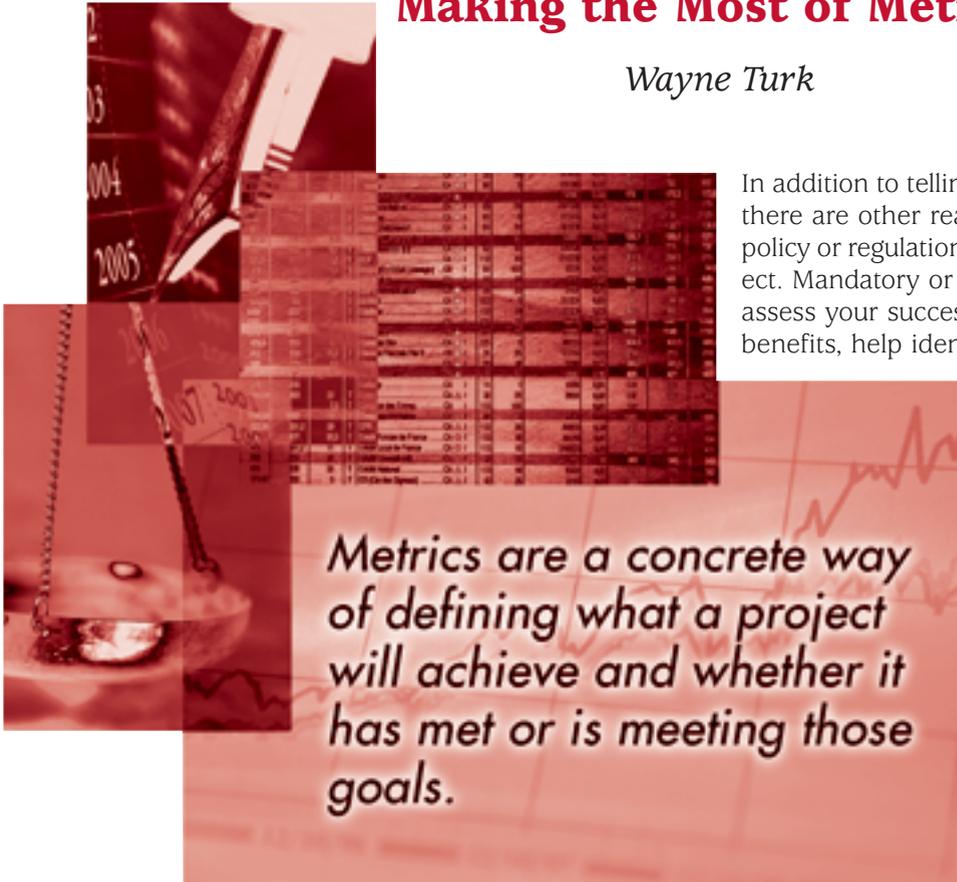
In addition to telling your boss how the project is going, there are other reasons to use metrics. In some cases, policy or regulations require metrics be applied to a project. Mandatory or not, metrics allow you to set targets, assess your success at meeting those targets, measure benefits, help identify issues and problems, determine the usability of a product (especially an IT-related product), and provide feedback on efficiency and process effectiveness. All of those are good reasons to use metrics, and they boil down to one thing—metrics help you manage the project.

Metrics are a concrete way of defining what a project will achieve and whether it has met or is meeting those goals.

Types of Metrics

What kinds of metrics are there? I could define things like ordinal, nominal, ratio, or interval metrics, but I want to keep this article on a practical level. This article will identify and provide examples for some of the more commonly used metrics.

The panic is on. You've just received an e-mail from your boss asking how the project is going. How do you find out how the project is going, and what can you tell him? Or maybe your first Interim Progress Review (IPR) is coming up. How do you show your boss that the project is on track and you have everything under control?

The answer is metrics. It's an easy answer, but metrics can be a tough process. Maybe this article can help make it a little easier.

Metrics—A Simple Definition

We all know what metrics are. Or do we? Let's try a simple definition. Metrics are a concrete way of defining what a project will achieve and whether it has met or is meeting those goals. Or maybe I can give the simplest definition of all—metrics are measurements of progress.

Turk is an independent management consultant with Suss Consulting and a retired Air Force lieutenant colonel and defense contractor. He has supported information technology projects, policy development, and strategic planning projects for DoD, federal agencies, and nonprofit organizations.

Yes or no (success or failure). Usually this type of metric has only one of two answers—yes or no, indicating whether a part of the project has been completed or not. Does something meet a requirement? Has a task been completed? It's a pretty simple metric. Example: Is the weight within the parameters set?

Percentages. This metric asks how much of a task is complete. It also asks how much the product will fulfill the requirements, which is always a good thing to know. Example: What percent of the tasks scheduled during this period were completed on time?

Comparisons (sometimes related to percentages). This metric is a direct comparison of the current process or product (or even a service) with something else. Examples: How does our product compare with previous models? How much cheaper to build (or maintain) is this model compared to other, similar models?

Variance (another type of comparison). This type of metric, a mainstay of earned value management, is a com-

parison of what has occurred versus what was expected. Examples: How does the earned value compare to the baseline? How far behind schedule are we?

Numeric. This is a straightforward measure or count of something. Example: What is the average number of errors for first-time users during testing?

Rating scales. This metric asks how something measures up. Example: What is the measure of satisfaction for users with functions and features on a new software program?

Trends. This measures how things are progressing over time. Are they improving, staying the same, or getting worse? These metrics are very important to monitor. Example: Is the average time between failures improving?

Other Metrics
Here are some of the most common metrics and the questions that they answer.
- Time—How are we doing against the planned schedule?
- Cost—How close to budget are we?
- Resources—How much time, staff, and equipment are we using on the project?
- Scope—Is there scope creep, and is it within acceptable limits? (We all wish that there was none, but that is the impossible dream.)

- Performance—Are we meeting the requirements and specifications?
- Risks—Are the project risks tolerable?
- Quality—How is our quality? Are we finding and fixing quality problems?

Choosing Metrics
What metrics are best and provide the most useful information when managing a project? That's hard to say because each project is unique, and the specific metrics in each area will vary by project.

Designing or choosing the appropriate metrics is one of the most difficult tasks faced by the program manager and other stakeholders. Defining and identifying good metrics is very hard, as well as potentially time consuming and expensive. To be useful, metrics must be quantifiable, measurable, and limited, in both scope and number. Additionally, they must measure things that are controllable.

There's an old saying that still holds true today: "What gets planned gets measured. What gets measured gets done." What managers must remember, though, is that what is measured becomes what is important—both to management and the project team. Remember, too, that when you measure something, you influence it, so you have to measure the right things or your metrics can lead you astray.

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10 Steps to Collecting Project Metrics

1. Identify success factors. Review the business objectives and be sure that the project deliverables clearly address all success factors.
2. Define what information is needed to show that the project was successful:
   - Cycle time (milestones) met
   - Budget contained within approved changes
   - Specifications adhered to.
3. Assign metrics for each of the success criteria that provide an indication of whether the success criteria are being achieved.
4. Determine how you would collect the information, what the effort and cost of collection would be, and what value would be obtained.
5. Cover the big picture. Don't focus on just one or two—we want metrics that cover all aspects of the project, such as:
   - Value delivered
   - Acceptance of deliverables
   - Cost
   - Cycle time
   - Effort
   - Productivity
   - Quality
   - Team performance.
6. Prioritize the metrics. Make sure we are getting the best bang for our buck—something that will deliver the most meaningful information with the least cost.

7. Compare actual results against initial targets. These can be fixed or within ranges. For example, budgets may be set within a range, whereas set milestones have a definitive date to be met.
8. Provide the process steps for collecting the information that answers the following questions:
   - Who is responsible for collecting the metric?
   - When will the metric be collected and reported?
   - How will the metrics be reported (status reports, quarterly meetings, metrics reports, manually, thought dashboard programs, etc.)?
9. Collect the data. Once your work plan is in place, the project manager's job is to monitor and control the project. Instead of reacting to singular events, the project manager knows where to focus and proactively concentrates on staying within the metric boundaries.
10. Analyze results. Collecting metrics on a weekly or monthly basis helps us with critical analysis so that we can follow up on critical trends and make process improvements, if necessary.

Modified from the PMI Metrics SIG Newsletter, *March 2005.*

Start by determining what results are important to the project's success. This is the basis for useful metrics. For instance, if time is the driver for a project, then tracking project milestones alongside the projected schedule is important and must be monitored closely. Generally, as I've mentioned, metrics are designed to reflect progress in the areas of budget, schedule, technical achievements, and performance, although there could be others. Over time, project metrics provide benchmarks and a history of progress that can provide lessons learned.

Once you choose the right metrics, you have to use them. It is up to the program manager and the staff to monitor the metrics. You probably will have to report them up the chain—usually done during the dreaded IPR with the boss or client. However, that is what metrics are for. They exist so that everyone involved in the project can see the status and so that problems can be identified early and fixed.

The Overall Metric Picture

So how do you view your metrics? Dashboards are a quick, high-level look at metrics that show the overall status of areas of the project. Frequently, dashboards use stoplight graphics and colors like red, which means problems (usually significant problems that could impact success unless something is done); yellow, which means problems or potential problems that are correctable; green, which means things are okay (on time, on budget, etc.); and sometimes blue, which means things are outstanding (well under budget, performance much better than expected, etc.).

"Presenting in a simple dashboard or traffic-light display focuses attention on the areas that need attention. An hour of analysis to establish all is well in a particular area is 59 minutes [and] 55 seconds of wasted time if a traffic light can provide the answer," said Neville Turbit in his article "Measuring Project Health," published on *ProjectPerfect.com*.

You should set dashboard metrics and obtain a common set of understandings on the meanings of the graphics

and colors before you start the project. For example, when should an aspect of the project be colored yellow instead of red? All stakeholders—including your boss and your customer—should agree to dashboard guidelines and report to those parameters throughout the entire project.

That way, those involved in the project can see the status and feel comfortable that the dashboard reflects the project's expected progress.

Stopping Metric Problems

There are always pitfalls, and you need to avoid as many of them as you can when establishing metrics. One way you can do this is make the metrics easy to capture. Ideally, the data-capture should be a part of the project management process and not an end unto itself. It should not be cumbersome, time-consuming, or costly. A poor metric is one that generates data in a costly manner without producing any suggestion of how the process could be improved or the problem resolved.

Additionally, metrics should not be thought of as a replacement for face-to-face communication. They should be the genesis of communication to assess the impact of an issue or problem, its cause, and some options for correcting it.

Project metrics should be useful, and they should be designed to reflect what is, not what should be. Project managers (or their staff) are often reluctant to provide data that might reflect negatively on the project. That is only human, but it must be overcome or it creates a false status of where the project really stands.

Another way to avoid pitfalls is to not shoot the messenger. All of us have been there. We bring bad news to the boss, and he explodes. The common result of that is that

> *What is measured becomes what is important—both to management and the project team. ... When you measure something, you influence it, so you have to measure the right things or your metrics can lead you astray.*
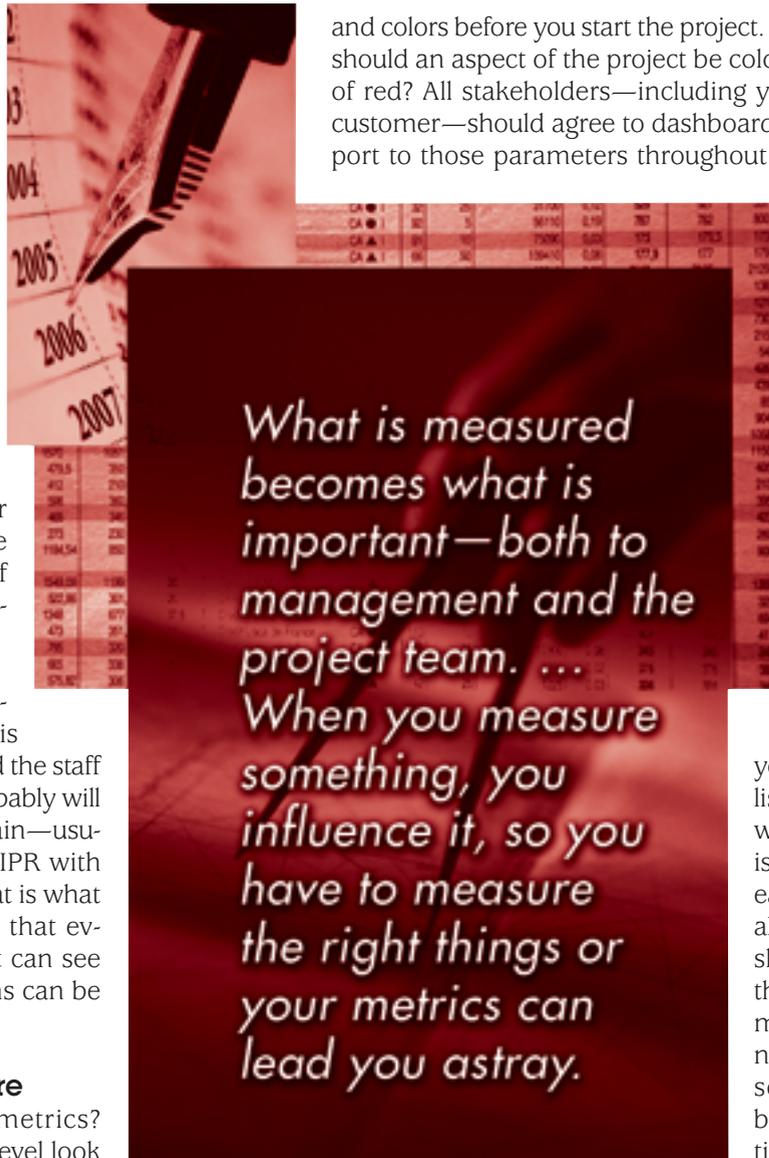
the metrics will likely be manipulated before they are reported, creating a false status.

The metrics for contractors should be developed jointly between the project staff and the contractor, although this can be very difficult and time consuming. It is essential, though, because the metrics must be acceptable to both, and the metrics have to show the status of the project using measurements that the contractor can control. If the metric is affected by something that the project staff does (such as the speed at which deliverables are approved/accepted), then the contractor is not going to accept the metric as a measure of his performance.

The metrics should be scaled to fit the project. A small project doesn't need several metrics, while a complex ship or aircraft design project would need many. Pick the ones that you need—and need is the operative word. Don't collect data just because you can. It's a waste of time and energy if it is something that you are not going to use.

Finally, choose the right metrics, even if it's hard to do. The wrong metrics are a waste of resources and may not be useful at all. They may even be misleading. If poor metrics are forced on you by someone higher in the chain, make the effort to show them a better alternative.

Metrics Software

There are plenty software products out there to assist you in tracking metrics for project management and portfolio management, including Artemis, Changepoint, CA Clarity™ PPM, DOORS, Primavera®, Planview®, and Microsoft® Office. Project managers must remember that these are only tools and need to be used wisely to get the data that's needed and not just to get data. A good metrics program should provide reliable, useful information for good decision making.

You may find that you need only a few metrics to measure the project's status. Don't be concerned if there are only a few. A large number doesn't necessarily make for better understanding or for good decision making. Too many metrics can make life confusing for the project team and cause people to manage the metrics rather than the product.

If you aren't using metrics, start. If you are, take a look at the ones that you are using. Are they worthwhile? Do they tell you what you need to know? If not, you had better take the time to determine the metrics that you really need. Otherwise you could find yourself and your project in deep trouble.

system baseline. This test provides the opportunity to verify performance and collect calibrated data for future use. The TEASG is also responsible for the evaluation and assessment of the test results as well as the interpretation of the component level and the sub-system or system level results.

The at-sea tests conducted by the TEASG are not intended to serve as the system certification. System certification is accomplished by the program office via a separate testing effort following full integration of the ACB into the baseline system. However, this step is designed with certification in mind so that the program office can ascertain the level of certification testing required. In addition, representatives of the Navy's Operational Test and Evaluation Force participate in testing as independent observers, facilitating decisions regarding future certification testing. At completion of the testing, the system is delivered to the program office for incorporation into the system baseline.

Following the fielding of a system, the performance of system baselines is analyzed based on data collected during deployments in actual operational environments as part of an engineering measurement program (EMP). The EMP is designed to provide data to support future ACB spirals, to establish a new baseline capability to compare to future improvements, and to address real-world fleet issues in operational environments.

The keys to ACB success are
- Sharing of information across organizations to create the full story
- Data-driven testing (build-test-build)
- Significant fleet involvement
- Peer review of new developments
- Verification of technology prior to implementation
- Continuing assessments and measurements.

Well-constructed peer group reviews of candidate technologies and applications allow independent and unbiased decision recommendations that provide the best options to the program manager to meet the urgent needs of the fleet. Ensuring strong, independent leadership and a balanced group membership is a crucial part of an effective peer review process, as is the use of real threat data for the ACB process and performance evaluation. The four-step process has been demonstrated by the submarine domain to be both effective and efficient in achieving the desired goals and to be extensible.

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In the News

ARMY'S LAND WARRIOR SYSTEM INCREASES SOLDIERS' COMBAT CAPABILITIES

Fort Belvoir, Va.—Soldiers from Fort Lewis, Wash., who have been using the Land Warrior and Mounted Warrior systems in Iraq for the last 45 days report that these "great tools" have surpassed their expectations.

Soldiers of the 2nd Infantry Division's 4th Battalion, 9th Infantry Regiment, are the first to take Land Warrior and Mounted Warrior into combat. Land Warrior is a state-of-the-art modular fighting system that combines computers, lasers, geolocation, and radios with soldiers' mission equipment to substantially improve situational awareness, mobility, sustainability, survivability, and lethality. It is designed to eliminate the fog of war.

In a user assessment at Fort Lewis, Land Warrior was proven to close 13 of 19 identified capability gaps, and soldiers with the 4th Bn., 9th Inf. Regt., who were interviewed from Iraq recently said that Land Warrior is working even better in actual combat situations than it did in testing.

"It provides a sense of comfort in reducing the fratricide potential. … Everyone knows where everyone else is on the battlefield, and everyone knows where everyone else's direct fire is," said Capt. Mike Williams, Company A commander.

Sgt. Daniel Garza, RECON platoon squad leader who was also interviewed from the field, was a skeptic when training with Land Warrior last summer. But after six weeks in combat with Land Warrior, he said, "If given the choice, I would not go outside the wire without it."

Land Warrior addresses issues of confusion in close combat situations and allows team leaders to see the locations of other dismounted soldiers and leaders as well as the enemy. It improves combat effectiveness and lethality for dismounted and mounted soldiers, and it provides increased unit situational awareness through interoperability with the vehicle crewman's Mounted Warrior system.

Soldiers from Fort Lewis, Wash., who have been using the Land Warrior and Mounted Warrior systems in Iraq for the last 45 days report that these "great tools" have surpassed their expectations.
U.S. Army photograph

In the News

The MW ensemble provides the crewman connectivity while on the platform with communications to dismounted soldiers equipped with Land Warrior, the ability to see the FBCB2 Common Operational Picture, and location of dismounted LW-equipped soldiers on a helmet-mounted display. MW also increases the crewman's survivability with enhanced fire protection.

Garza talked about using the Land Warrior system during a recent raid: "I was able to see where both my squads were, and we were able to see where the target vehicles were."

He said one of his complaints during initial testing was about the weight of the system—about 10 pounds in a typical configuration. He said that he has "done a 180 in terms of how I feel about the system." Enhanced situational awareness is a payoff that more than offsets the increased load. About the weight, he said, "After a while, you don't even notice it."

Williams said the system has proven "extremely reliable" in combat situations, adding that it has held up in Iraq's extreme heat and desert terrain.

For additional information on Land Warrior or on Program Executive Office Soldier, which oversees Land Warrior and almost all other individual soldier equipment, visit < www.peosoldier.army.mil >.

NAVY NEWSSTAND (JULY 18, 2007)
NEW GEAR FOR AFGHAN COMMANDOS

Petty Officer First Class David Votroubek, USN

Camp Morehead, Kabul, Afghanistan—To an American, the weapons and equipment would look familiar on any base in Afghanistan. The difference is that now it's in the hands of Afghan soldiers. The Afghan National Army's 1st Commando Kandak (battalion) is completing their training and is receiving the same equipment as American soldiers.

The field issue and personal weapons now being used by the 1st Commando Kandak are modeled after a U.S. Army Ranger Battalion's organizational equipment, and all six of the ANA commando battalions will be similarly equipped. This makes interoperability and standardized training much easier.

The decision to use American weapons and equipment was made because they're considered more reliable, easier to obtain, and more familiar for the commando trainers. Quick procurement is important because all six of the ANA commando kandaks

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Logistics Command Graduates First Basic Computer Class

Petty Officer First Class David Votroubek, USN

Kabul, Afghanistan—The Central Supply Depot in Kabul graduated its first basic computer class at the Logistics Command on July 22, 2007. Two of the 15 graduates were soldiers from the Afghan National Army and the rest were civilian workers at CSD.
The course will help the CSD workers to improve their processes for storage and distribution of materials for the ANA, which helps their soldiers fight insurgents in the field.

Training them was a team effort of five U.S. Air Force logistics mentors. The month-long course was taught by Senior Master Sgt. Wendel Wilson and Tech. Sgt. Natalie Cerchio of the Logistics Command, with help from Lt. Col. Steven Foss, Senior Master Sgt. David Fenn, and Tech. Sgt. Victor Gonzales III. Afghan interpreters assisted by checking the students' work. More importantly, the students helped each other.

"They help each other, and that's a good thing," said Cerchio. "As a teacher, that's what we want to see."

The CSD workers took the class while still working their regular jobs. This is typical in Afghanistan, but still indicates something about their eagerness to learn about computers. In fact, they wanted to extend the class even further.

They first learned to use a keyboard, and after the first week their progress steadily increased, according to Cerchio. Their ability to learn the basics of various office and word-processing programs impressed the instructors.

Wilson and Cerchio will keep training the CSD's workforce until they depart Afghanistan. At the rate of 15 students per class, approximately 90 CSD personnel will have a basic understanding of computer operations over the coming months. In turn, the training will expand to include more specialized courses like Decree 4.0, which will specifically help them understand ANA supply processes in the work center.

"This process is continuing until all people working at Central Supply Depot can use the computer," said Col. Ali Gohar, who commands the depot.

Votroubek writes for Combined Security Transition Command-Afghanistan Public Affairs.

are expected to be equipped and trained by September 2008.

The soldiers are being issued new M-4, M-240, and M-249 weapons; communications equipment; clothing; sleeping gear; and field equipment. The kandak even got a portable kitchen to cook hot meals in the field, which had been difficult for them to do in the past.

With the assistance of the ANA leadership, the Combined Security Transition Command–Afghanistan identified what the commandos needed. It took a tremendous effort of coordination. Besides CSTC-A's logistics and supply, many items needed to be quickly obtained through foreign military sales from the U.S. Department of Defense. It was truly a team effort between CSTC-A's mentors at Camp More-

Camp Morehead, Afghanistan. Two soldiers from the First Commando Battalion, armed with new M-4 rifles, conduct a raid during a field training exercise. The First Commando Battalion is part of the Afghan National Army's 201st Corps and began commando training at Camp Morehead on May 5, 2007.
U.S. Navy photograph by Petty Officer First Class David M. Votroubek, USN

head, contracting, legal advisors, comptrollers, and logistics personnel.

"We have to graduate all six battalions in a really short time frame" said U.S. Air Force Maj. Todd Cox. "The FMS case managers are great and work with us daily to solve any and all issues."

The work put in by the security assistance office in CSTC-A's CJ-4 logistics section is another good example of how people behind the scenes actually get new equipment into the field. People like U.S. Army Maj. Judy Davis and Hamid Noorie spent numerous personal hours researching and calling vendors to make purchases happen in time. And those efforts paid off, according to Lt. Cmdr. Julius Arnette, chief of logistics programs/resource manager for CJ-4. By paying close attention to both the needs and budget cycles, CJ-4 was able to get material in 2007 that would have been funded in 2008 or even 2009.

The commandos themselves worked hard to make the transition successful. Not only did they learn how to use the new weapons and radios, they also produced almost 300 more trainees than were anticipated. The commander of the 1st Commando Kandak, Lt. Col. Mohammad Farid Ahmadi, believes that his unit worked out supply and logistics issues that will make it easier for the next battalion.

Cox didn't mind the extra work at all. As an Air Force logistician he's used to working on supply, transportation, and mobilization in the United States. However, his experience with equipping Afghan commandos to fight for their country is a first for him.

CSTC-A will make history when the 1st Commando Kandak graduates on July 26, 2007. It'll be the first ANA unit to be completely trained and equipped with American gear, but it won't be the last. After the six commando battalions are trained by CSTC-A, the ANA will assume the mission of training commandos at Camp Morehead.

Votroubek writes for Combined Security Transition Command-Afghanistan Public Affairs Office.

MEDICAL COMMUNICATIONS FOR COMBAT CASUALTY CARE (MC4) (JULY 17, 2007)
ELECTRONIC MEDICAL RECORDING KICKS OFF IN KOREA

FORT DETRICK, Md.—The electronic medical recording efforts on the battlefield expanded to the U.S. Army's 2nd Infantry Division (ID) in Korea, which recently began using the Army's Medical Communications for Combat Casualty Care (MC4) system to

digitally document patient records and reorder medical supplies for the first time.

"MC4 will afford us a unique opportunity to record patient encounters—both in garrison and in the field—and permanently capture that data for bio-statistical analysis," said Army Maj. Andrew Fletcher, brigade surgeon, 1st Heavy Brigade Combat Team (HBCT), 2nd ID. "It will make our daily workload immediately available for review and help justify our continuously changing needs for personnel, supplies, equipment, and pharmaceuticals."

Fletcher manages healthcare operations for the brigade and commands more than 4,200 personnel as the senior licensed medical provider. "Initially there will be a transition period from paper to electronic documentation. As we have learned with transitioning our clinics from paper to AHLTA [Armed Forces Health Longitudinal Technology Application], I believe patient encounters will be executed more quickly and efficiently."

MC4's training and fielding efforts began June 6, with onsite support personnel educating more than 730 providers and equipping them with 785 systems, including ruggedized handhelds, laptops, servers, and printers.

"Our junior soldiers have grown up with computers and they are eager to use the hardware and software deployed by MC4," Fletcher said. "Since the 1st HBCT is the only unit in Korea that has separate aid stations, one of our main goals with MC4 is to provide the 18th Medical Command with patient information on a routine basis. Prior to MC4, we would have to accomplish this by fabricating spreadsheets based on paper medical records. This was very time-consuming, inaccurate, and fairly inaccessible to other agencies outside of Korea."

Other units contributing to the digital medical recording effort in Korea include the 18th Medical Command, 35th Air Defense Artillery Brigade, 19th Expeditionary Sustainment Command, and the 8th Army.

"The continued expansion of the digital medical recording mission brings military medical forces one big step forward in meeting their promise to deployed servicemembers," said Army Lt. Col. Edward Clayson, MC4

MC4 trainers teach the 2nd Infantry Division medical providers in South Korea how to use their MC4 laptops for documenting patient care.
Photograph courtesy MC4

In the News

commander and product manager. "Taking the necessary steps to create a comprehensive, electronic medical history will provide those returning from battle with the information they need to receive continued treatment at home. You can't put a price tag on that."

Medical Communications for Combat Casualty Care (MC4) integrates, fields, and supports a medical information management system for Army tactical medical forces, enabling a comprehensive, lifelong electronic medical record for all servicemembers, and enhancing medical situational awareness for operational commanders. Headquartered at Fort Detrick, Md., MC4 is overseen by the Army Program Executive Office, Enterprise Information Systems at Fort Belvoir, Va. For more information on MC4, visit < www.mc4.army.mil > .

PROGRAM EXECUTIVE OFFICE SOLDIER (JULY 13, 2007)
SEE, ACQUIRE, AND TARGET
Debi Dawson

Armed with the latest in image intensification and other target acquisition technology, American soldiers have an edge in missions at night or in other low-visibility situations.

Lt. Col. Jim Smith, who oversees the U.S. Army's program that provides sensors and lasers, says that his products help soldiers to "see always, acquire first, and target once," adding that American soldiers "own the night." Smith is the product manager for sensors and lasers, which is part of Program Executive Office (PEO) Soldier. PEO Soldier designs, develops, buys, delivers, and sustains virtually everything the American soldier wears or carries.

PEO Soldier's sensors and lasers include helmet-mounted night vision devices that provide improved situational awareness in all conditions, thermal weapon sights that provide enhanced abilities to acquire targets in degraded visibility, and aiming lights and other devices that accurately locate targets.

Smith says these tools "enhance a soldier's ability to acquire, pick out those objects of interest within that battle space, and identify those [objects]."

The AN/PVS-14 Monocular Night Vision Device (MNVD) is a helmet-mounted device used by the soldier to amplify ambient light. The system is designed for use in conjunction with rifle-mounted aiming lights. The lightweight (14 ounce) monocular design provides operational flexibility to leaders, allowing retention of optimized night vision

in one eye. The AN/PVS-14 can also be mounted to the M16/M4 receiver rail.

The AN/PVS-10 Sniper Night Sight (SNS) enables the soldier to accurately acquire and engage targets using the M24 Sniper Weapon System at night to a range of 600 meters and during daylight to a range of 800 meters. SNS is a light-weight, weapon-mounted, image-intensified passive device designed primarily for use by the sniper in day and night operations. A day/night lever enables the user to alternate between day and night modes of operation. It includes a black line reticle for day use that is illuminated for night use when required.

Multi-functional Aiming Lights (MFAL) such as the ANPEQ-2A, ATPIAL, and DBAL-A2 are used in conjunction with night vision goggles to engage targets in low light conditions. When zeroed to the weapon, these devices provide an invisible continuous infrared beam along the weapon's line of fire. A visible, red dot aiming laser can also be selected to provide accurate aiming of a weapon during daylight or night operations.

The AN/PAS-13 Thermal Weapon Sight (TWS) family enables individual and crew-served weapon gunners to see deep into the battlefield, increase surveillance and target acquisition range, and penetrate obscurants, day or night. The TWS uses forward-looking infrared technology and provides a standard video output.

PEO Soldier always strives to improve current technologies and is never satisfied with the status quo. Program Executive Office Soldier Brig. Gen. R. Mark Brown says that PEO Soldier is "constantly looking for the next best thing—whether it's a technological advance or a relatively minor gear or clothing adjustment that will protect soldiers, save their lives, or just make their mission a little easier and more comfortable."

Dawson writes for PEO Soldier at Fort Belvoir, Va.

DEPARTMENT OF DEFENSE NEWS RELEASE (JULY 18, 2007)
U.S. ARMY TO ACQUIRE FUTURE COMBAT SYSTEMS SPIN OUT AND MANNED GROUND VEHICLE TECHNOLOGY

The assistant secretary of the Army (acquisition, logistics and technology) approved sole source justification to procure on an other-than-full-and-open-competition basis future combat system (FCS) technology Spin Out Low-Rate Initial Production effort

and the congressionally directed Manned Ground Vehicle Initial Production Platform Non-Line-of-Sight Cannon (NLOS-C).

The approval allows the Army to acquire FCS enhanced capabilities for the current force through technology insertions, termed Spin Outs. There will be three Spin Outs with technology insertion planned for 2008-2015.

Initially, the soldiers of the Army Evaluation Task Force will first receive Spin Out 1 technology for evaluation and training. Spin Out 1 consists of equipment sets to provide enhanced situational awareness and communication capabilities for the current force through technology insertions to Abrams, Bradley, and High Mobility Multipurpose Wheeled Vehicle (HMMWV) vehicles. Technologies that will be delivered include "B kits" comprised of the ground mobile radio and the integrated computer system, system of systems common operating environment, battle command software, network management system software and both urban- and tactical-variant unattended ground sensors, and the Non-Line-of-Sight Launch System (NLOS-LS).

A total of 18 Manned Ground Vehicle Initial Production Platforms, also known as the NLOS-C, will be produced starting in late 2008 and continuing at a rate of six vehicles per year through 2011. The NLOS-C will provide the soldier with networked, extended-range targeting and precision attack capability and is armed with a 155mm self-loading cannon.

FCS is the primary Army modernization program consisting of a family of manned and unmanned systems and sensors, connected to a common network, that will enable the modular force by providing soldiers with leading-edge technologies and capabilities that will allow them to dominate in complex environments.

ARMY NEWS SERVICE (JULY 26, 2007)
NEW SURVEILLANCE CAMERA MINIMIZES DANGER IN IRAQ
Rapid Equipping Force

Fort Belvoir, Va.—A new surveillance system that minimizes soldiers' exposure to harm while providing continual observation in operating areas has been fielded in Iraq after just three weeks of design and manufacturing.

The Army's Rapid Equipping Force developed the Rapid Deployment Integrated Surveillance System, or RDISS, to

Sgt. 1st Class Mark Henderson, operations noncommissioned officer with the Army's Rapid Equipping Force, installs a new surveillance system on Camp Victory, Baghdad. The system is called the Rapid Deployment Integrated Surveillance System, or RDISS.
Photograph by Maj. Robert Lenz, USA

improve situational awareness for soldiers at joint security stations and combat outposts throughout Iraq.

"There are a lot of areas, especially obscured areas, around the combat outposts, and we needed a way to cut down on exposing the troops to this broad danger," said Sgt. 1st Class Mark Henderson, REF operations non-commissioned officer.

The REF partnered with Exponent Inc., an engineering and scientific consulting firm, to develop the RDISS, which can be installed quickly and with minimal training.

"In this environment, where a potential sniper lurks around every corner, having the capability to maintain persistent surveillance while minimizing the risk to the soldiers is a must," said Lt. Col. Daniel Shea, REF team leader in Iraq.

REF staff trained more than 100 soldiers, Marines, and civilians from 20 brigades in the last two months to install, troubleshoot, and maintain the system.

"It's a very simple system to install and monitor yet the benefits are priceless. I know of a few occasions in which using RDISS has averted dangerous situations downrange. It's already proven its worth," Shea said.

REF plans to deploy hundreds of systems to Iraq and Afghanistan by year's end.

"RDISS is a definitive asset when it comes to persistent surveillance, and as long as joint security stations and combat outposts remain targets of opportunity for enemy forces, RDISS will be there to help the soldiers," Shea said.

AMERICAN FORCES PRESS SERVICE (AUG. 3, 2007)
GAO REPORT RECOGNIZES DLA'S EXCESS PROPERTY PROGRAM IMPROVEMENTS

WASHINGTON—The Defense Logistics Agency has significantly improved its handling of excess military property, specifically F-14 Tomcat fighter jet parts, according to a new Government Accountability Office report.

The Aug. 1 report monitored the agency's excess property sales from September 2006 to March 2007. During that time, GAO identified only two instances in which sensi-

tive items were inadvertently sold outside the Defense Department.

In the first instance in September, 295 items were released for sale inappropriately. The second instance in February 2007 led to 1,385 general hardware-type parts that could be used on F-14s and other aircraft being sold to the public. However, the Defense Logistics Agency identified this mistake immediately and has since recovered all but two of those items, DLA officials said. DLA voluntarily stopped the sale, transfer, and donation of all F-14 parts Jan. 26, limiting those items to reuse by the military services only.

Since July 2006, the Defense Reutilization and Marketing Service, a DLA field activity, has taken several steps to prevent improper sales of military equipment to the public, officials said. Those include changing the way property is grouped in lots for sale, increasing scrutiny of items before sale, tightening controls on the release of property, creating a post-sale review and retrieval process, and designating some items as controlled with strict processes to prevent their sale to the public.

"We've made significant progress in tightening our control of sensitive military equipment, as GAO's recent report confirms," said Army Lt. Gen. Robert T. Dail, director of the Defense Logistics Agency. "We are pleased that GAO's examination reflects the actions we have taken over the past year to ensure national security and proper reutilization and sale of government property. We promise to continue these efforts."

The Defense Reutilization and Marketing Service provides Defense Department units worldwide with critical disposal services for material no longer needed for national defense. DRMS is responsible for property reuse—including resale, hazardous-property disposal, demilitarization, precious-metals recovery, and recycling program support.

DLA provides supply support and technical and logistics services to the U.S. military services and several federal civilian agencies. With headquarters at Fort Belvoir, Va., the agency is the one source for nearly every "consumable" military item, whether for combat readiness, emergency preparedness, or day-to-day operations.

Defense Logistics Agency News Release.

In the News

INFORMATION ASSURANCE TECHNOLOGY ANALYSIS CENTER (AUG. 2, 2007)
NEW DOD REPORT LOOKS AT TODAY'S SOFTWARE SECURITY CHALLENGES AND SOLUTIONS

Herndon, Va.—The Information Assurance Technology Analysis Center (IATAC), an information analysis center within the Defense Technical Information Center (DTIC), has just published *Software Security Assurance: A State of the Art Report*, which provides a comprehensive look at the most significant of today's efforts to improve the state of software security assurance.

The triple threat of cybercrime, cyberterrorism, and asymmetric information warfare is here to stay. Well-funded, highly motivated nation-state adversaries, terrorists, and criminals are overshadowing the more familiar ranks of malicious and recreational hackers in targeting the landscape of software-based systems; services; applications on the Internet and other private networks; and software on which, increasingly, our financial welfare, privacy, health, safety, and indeed, our very lives depend.

Software Security Assurance: A State of the Art Report describes the threats and common vulnerabilities to which software is subject. It presents the many ways in which the software security assurance problem is being framed and understood across government, industry, and academia; describes numerous methodologies, best practices, technologies, and tools currently being used to specify, design, and implement software that will be less vulnerable to attack; and to verify a software's attack resistance, attack tolerance, and attack resilience.

The publication offers a large number of available print and online resources from which readers can learn more about the principles and practices that constitute software security assurance. The report closes with observations about the potentials for success, remaining shortcomings, and emerging trends across the software security assurance landscape.

Software Security Assurance: A State of the Art Report, Karen Mercedes Goertzel, et al, July 31, 2007, 392 pages, is available from IATAC. Call 703-984-0775; e-mail iatac@dtic.mil; or visit the IATAC Web site at < http://iac.dtic.mil/iatac >.

ARMY NEWS SERVICE (AUG. 9, 2007)
ARMY LOGISTICS BEGINS NEW CHAPTER IN IRAQ

Multi-National Corps–Iraq Public Affairs Office

LOGISTICS SUPPORT AREA ANACONDA, Iraq—The 316th Expeditionary Sustainment Command from Coraopolis, Pa., assumed authority of the logistical support mission for the Iraq Theater from the 13th Sustainment Command (Expeditionary), Aug. 8.

"This is a historic event with the 316th being the first command to use the Army's new modular force logistics

> "This is a historic event with the 316th being the first command to use the Army's new modular force logistics structure. This structure changes the way we provide logistical support on the battlefields today."
>
> —Col. Karen Jennings, USA
> Deputy Commanding Officer
> 316th Expeditionary Sustainment Command

structure. This structure changes the way we provide logistical support on the battlefields today," said Col. Karen Jennings, deputy commanding officer for the 316th.

"With the unit standing up in September 2006, just 10 months ago, the progress we have made is just outstanding," said Jennings.

The 316th is comprised of soldiers from 43 states and four countries who have attended more than 500 training courses to help them prepare for their mission since standing up.

"We have a tough road ahead of us. Our soldiers will be outside the wire daily; but our soldiers are disciplined, well-trained, and committed to excellence. The 13th has

laid a great foundation for the 316th to build upon," said Jennings.

The 316th continues the mission of planning, monitoring, and providing daily logistical support to soldiers in the fight throughout Iraq.

The incoming commanding general for the 316th is Brig. Gen. Gregory E. Couch, and the incoming command sergeant major is Command Sgt. Maj. Stacey E. Davis.

"I am confident Brig. Gen. Couch, Command Sgt. Maj. Davis, and all the other soldiers (and airmen) in the 316th will meet the 13th's standards and then surpass them," said Brig. Gen. Michael J. Terry, 13th commanding general.

"I can't say enough about how prepared the 316th was upon arrival," said Terry. "Because of their enthusiasm and dedication, the transition process went seamlessly."

The 13th, headquartered in Fort Hood, Texas, is passing on a well-organized and very successful system to the 316th, said Terry.

"What the 13th has accomplished is simply remarkable," said Maj. Gen. James Simmons, deputy commanding general for Multinational Corps-Iraq. "The 13th has executed over 35,000 combat logistical patrols, they have driven over 19 million miles, they have moved over 780 million gallons of fuel, 3.2 billion gallons of bulk water, and 28 million cases of bottled water to FOBs [forward-operating bases] throughout this country."

This transition marks a new chapter for the Army—a chapter that will no doubt be very successful, said Terry.

AIR FORCE PRINT NEWS (AUG. 10, 2007)
PREDATOR SOARS TO RECORD NUMBER OF SORTIES

Master Sgt. Steve Horton, USAF

BALAD AIR BASE, Iraq—When terrorists tried shooting mortar rounds at Balad Air Base in July, they didn't count on the tireless, unblinking eye of an MQ-1 Predator unmanned aerial vehicle overhead, transmitting their every move to airmen on the ground.

Airmen assigned to the 46th Expeditionary Reconnaissance Squadron kept the Predator overhead July 24 watching the men while they confirmed what they were seeing with a joint terminal attack controller on the ground.

After confirmation, the order was given for the Predator to launch an air strike and, moments later, a Hellfire air-to-ground missile struck the terrorists' car when they fled, killing the three terrorists.

"The Predator crews go through the same targeting and approval processes as a pilot flying another strike aircraft before shooting a weapon," said Col. Marilyn Kott, the 332nd Expeditionary Operations Group deputy commander." They coordinate with ground forces to confirm targets and coordinate on the best course of action for the situation."

Sometimes the best course of action is launching an air strike; other times it can mean remaining overhead to observe or follow possible insurgents as they move around the countryside.

"The crews flying the Predator report possible enemy activity and give the joint terminal attack controller and the ground and air commanders the opportunity to decide what they want to do with that information," Kott said.

"They can agree that the activity needs to be stopped right away and can target the perpetrators."

Because the Predator has a long loiter time, it is an ideal platform for intelligence, surveillance, and reconnaissance, so the 46th ERS mission load has increased.

June, a busy month for most U.S. and coalition forces conducting and supporting combat operations throughout Iraq, was a record-setting month for the 46th. They recorded a record number of combat sorties and flying hours for the Predator during the month. More than 175 combat sorties were generated, producing 3,279 flying hours.

July was just as busy for Predator operations. The squadron flew the same number of combat sorties as in June, but increased flying hours to more than 3,300.

"It says a lot about how much the Predator is employed and how busy the 332nd Air Expeditionary Wing is now as opposed to some previous periods of Operation Iraqi Freedom," Kott said. "That's partially because the wing and the (continental U.S.) Predator units have increased OIF Predator capability, developing logistics and technologies to make the system more successful in a deployed environment."

And with success comes more requests for the Predator's services.

"The air battle staff asks for the Predator constantly because it provides such a fine [intelligence, surveillance, and reconnaissance] platform, and it's always airborne," the colonel said. "The objective here is to find and follow activity that might be aiding the insurgents."

"The sorties and hours are increasing as a result of increased demand," said Maj. Jon Dagley, the 46th ERS commander. "Currently, the Predator is the most requested asset in theater. As warriors continue to recognize how the Predator works, what it brings to the fight, and what it can do for them, its demand will only continue to skyrocket."

Even with the number of sorties and flying hours increasing, the colonel is quick to point out the rigorous thought process that goes into the decision to launch an air strike or not.

"The [improvised explosive devices] terrorists are planting, for example, don't just affect our convoys; they pose a danger to civilians living here too," Kott said. "The more surgical we can be at stopping insurgent behavior, the better [it will be] for the civilians trying to get on with their lives."

The 46th ERS, consisting of less than a dozen airmen, is responsible for the takeoff and landing of Balad Air Bases's fleet of Predators as well as flying operations within a 25-mile radius of the base. Every sortie is manned on the ground by a pilot, who flies the aircraft and controls the weapons system by remote control, and a sensor operator, who controls the camera view and laser targeting system on the aircraft.

Once the Predator is in the air, the pilot and sensor operator will locate a target point used to zero in the weapons system. The sensor operator works with ground members to ensure the laser, which guides the Predator's weapons system, is on target. When the weapons system has been zeroed in, the pilot prepares to hand control of the Predator to airmen stationed halfway around the world at Nellis Air Force Base, Nev., or at March Air Reserve Base, Calif.

"The Predator is coming into its own as a no-kidding weapon versus a reconnaissance-only platform," Dagley said. "The work it is doing with its precision-strike capability on top of top-notch ISR, is forcing many people to stand up and take notice. It is forging new ground almost

daily. It is paving the way for future technologies and applications, and, as a result, tactics."

By coming into its own as a weapon to complement its ISR capability, the number of Predator sorties and flying hours will continue to increase. That's good news to U.S. and coalition forces, and bad news to the terrorists who think they can continue to threaten the security of Iraq.

Horton writes for the 332nd Air Expeditionary Wing Public Affairs.

AMERICAN FORCES PRESS SERVICE (AUG. 10, 2007)
LONG-TERM SECURITY IN IRAQ DEPENDS ON ECONOMIC CONDITIONS, OFFICIAL SAYS

Donna Miles

WASHINGTON—Getting Iraqis back to work is critical to Iraq's future as a stable, secure, and prosperous country that can stand up to terrorists, the Defense Department official overseeing that effort said today.

Iraq's long-term security depends on a strong economic climate, Paul Brinkley, deputy under secretary for business transformation, told online journalists and bloggers during a conference call from Baghdad.

More than 50 percent of the Iraqi population is out of work or underemployed, a statistic Brinkley said would create unrest anywhere, including the United States. "Terrorist networks are preying on this economic distress" in Iraq, he said. He cited Army Gen. David H. Petraeus' counterinsurgency vision for Iraq: a security establishment augmented by rapid economic development and restoration of employment and hope to the Iraqi people. This two-pronged approach "directly undermines the ability of terror networks and insurgents to gain sympathy from local populations and makes the job of securing this country vastly easier," Brinkley said.

As director of the task force to improve business and stability operations in Iraq, Brinkley is working to ensure the economic side of Petraeus' equation keeps pace with security progress. The task force's number one focus is Iraq's idle industrial base, which fell into distress after 2003 and left many Iraqis out of work. Congress recently appropriated $50 million to the task force to speed up the restart of Iraqi industries, Brinkley said.

The first step to getting Iraq's factories up and running is to ensure they have the sewer, water, electrical, and telecommu-

nications services they need to operate, he said. As the U.S. reconstruction effort brings Iraq's neglected infrastructure up to speed, it's laying the foundation for Iraq's economic development.

Brinkley cited several recent and upcoming milestones that mark progress:
- More factories are reopening. These factories, to be announced Aug. 13 during a joint news conference with Iraqi officials, will join six Iraqi factories already operational throughout Iraq.
- A reopened Iraqi clothing factory announced its first orders for export. Major U.S. retailers are involved, and some Iraq-made clothes are expected to be on U.S. shelves in time for Christmas.
- Executives from major U.S. corporations recently visited Iraq to explore ways to put Iraqis back to work manufacturing vehicles and heavy equipment for the Iraqi government and Iraq's private transportation infrastructure.
- More than 30 plant managers from around Iraq attended a session last week to discuss efforts to reemploy Iraq's skilled workforce and the need for financial transparency in spending funds allocated toward this effort.

Brinkley said this kind of success breeds more success and gives the Iraqi people hope for the future. He expressed confidence that these and other efforts under way will help Iraq regain its past reputation for having "one of the most skilled and educated workforces in the Middle East."

Miles writes for American Forces Press Service.

AIR FORCE PRINT NEWS (AUG. 10, 2007)
SECRETARY MONITORS JOINT TACTICAL RADIO SYSTEM DEVELOPMENT

WASHINGTON—The secretary of the Air Force recently visited the Joint Program Executive Office in San Diego to discuss the current status of the Department of Defense-mandated Joint Tactical Radio System, or JTRS, program.

Secretary Michael W. Wynne, who sits on the board of directors for the JTRS program, received updates on the accomplishments, goals, and challenges facing JTRS.

The goal of the JTRS program is to produce a family of radios that operate in a network to ensure secure, wireless communication for mobile and fixed forces across the joint battlefield.

JTRS radios will enable the transfer of voice, data, and video between the Air Force and joint users. JTRS will also have the ability to use multiple waveforms to allow communication between joint users using a single radio type, cutting out the need to carry and maintain various handheld, aircraft, maritime, and other legacy radios used in the field today.

"Cutting-edge networking technologies like JTRS vastly magnify U.S. military power," said Wynne. "Advanced waveforms are an important means of protecting our forces and ensuring our dominance of battlefield cyberspace."

The Air Force, in partnership with other Services, plays a key part in developing the JTRS family of radios through the Airborne Maritime Fixed program office at the Electronic Systems Center at Hanscom Air Force Base, Mass.

The AMF program provides information sharing and collaboration by supporting advanced networking capabilities to transmit, receive, bridge, and gateway between similar and diverse waveforms over multiple communications media and networks. These capabilities will be enabled by Navy satellite communications and waveforms.

The radios are scheduled to enter the system design and development phase during the first quarter of 2008. The first radios are expected to be produced as early as 2011.

"The overall success of the joint warfighter depends on information sharing and collaboration among branches of the U.S. military and our coalition partners," said Dennis Bauman, the joint program executive officer for JTRS. "JTRS radio systems will benefit the tactical user by supporting real-time, battlefield awareness through an interoperable, networked communication capability, enabling battlefield superiority."

ARMY NEWS SERVICE (AUG. 15, 2007)
ARMY UNVEILS FIRST HYBRID-ELECTRIC PROPULSION SYSTEM FOR NEW COMBAT VEHICLES

The Army unveiled its first hybrid-electric propulsion system for a new fleet of Manned Ground Vehicles (MGVs), which will be tested and evaluated at the Power and Energy Systems Integration Laboratory (P&E SIL) in Santa Clara, Calif.

In the News

The Army is developing and building eight new MGV variants for 15 Future Combat Systems Brigade Combat Teams (FCS BCTs). All eight commonly designed MGV variants will provide soldiers with enhanced survivability, increased speed and mobility, new network-based capabilities, and more modern, modular technology.

The Army is saving money by employing a common chassis across all eight MGV variants. Indeed, with 75-80 percent commonality, the MGV chassis significantly reduces design, production, and sustainment costs versus the expense of eight completely different MGV variants.

"Today's unveiling of our new MGV hybrid-electric propulsion system shows, once again, that future combat systems really are about what's happening today," said FCS BCT Program Manager Maj. Gen. Charles Cartwright. "With new FCS technologies, the Army is providing state-of-the-art capabilities to our soldiers sooner rather than later," he added.

Today's milestone also is significant because, for the first time, the Army will be integrating a functional hybrid-electric drive system into a combat vehicle. The drive system is part of the propulsion system that will power the vehicles.

The Army is using hybrid-electric power because the more modern FCS BCTs have much greater electrical power requirements than the current force heavy BCTs. Hybrid-electric vehicles provide the requisite electrical power because they employ a rechargeable energy storage system. An ancillary benefit of the hybrid-electric vehicles is improved fuel economy and less reliance on oil, natural gas, and other fossil fuels.

The Army has long been at the forefront of developing hybrid-electric vehicles. In fact, the Army's hybrid-electric vehicles are significantly more robust and more powerful than commercial hybrid vehicles. The first hybrid-electric MGV variant, the Non-Line-of-Sight Cannon (NLOS-C), will commence production in late 2008.

"The MGV drive train is unique," said Col. Bryan McVeigh, product manager for MGV systems integration. "The traditional engine has been de-coupled from the drive train architecture and is designed only to recharge the energy storage system and power the vehicular systems.

"The hybrid drive system alone," he added, "literally will move the vehicle. This is a new and better way of moving across the battlefield."

Soldiers in the Army Evaluation Task Force (AETF) will begin testing mature FCS Spin-Out 1 technologies this year at Fort Bliss. Once the AETF has completed its evaluation, these technologies will become available for fielding to deployed forces. Precursor FCS technologies, including the PacBot Tactical Robot and Micro (Unmanned) Air Vehicle, already are being used by soldiers in Iraq and Afghanistan.

Media contact: Paul Mehney, Public Affairs Officer, FCS BCT, 586-770-3438, paul.mehney@us.army.mil.

MORE MINE-RESISTANT, AMBUSH-PROTECTED VEHICLES SHIPPED TO MIDDLE EAST
Sgt. Sara Wood, USA

WASHINGTON—U.S. troops serving in Iraq will have a little more protection soon, as two of the military's newest armored vehicles are on their way to the theater.

Two Buffalo mine-resistant, ambush-protected vehicles, known as "MRAPs," were loaded onto C-5 Galaxy aircraft Thursday night at Charleston Air Force Base, S.C., to be shipped to Iraq. This latest shipment is part of the Defense Department's push to get as many of the new vehicles to troops in combat as quickly as possible.

Defense Secretary Robert M. Gates has been pushing the production and delivery of MRAPs, which boast a V-shaped hull that deflects bomb blasts and protects troops inside better than the military's current vehicles. The Defense Department awarded two more contracts for the vehicles the week of Aug. 10, which brings the number of vehicles on contract to 6,415. An estimated 3,500 MRAPs are expected to be shipped to Iraq by Dec. 31.

The MRAPs are shipped to Iraq by the 437th Airlift Wing, out of Charleston. The vehicles are part of the 300 tons of cargo the unit moves on a daily basis. It typically takes two days to airlift the MRAPs to Iraq, said Cynthia Bauer, a public affairs officer with U.S. Transportation Command, which oversees the movement of the vehicles. A small number of MRAPs are taken by sea, which takes between 22 and 30 days, she said.

A Mine-Resistant Ambush Protected vehicle is loaded onto a C-5 Galaxy aircraft Aug. 16 at Charleston Air Force Base, S.C. Air Mobility Command assists with the movement of MRAP vehicles to U.S. Central Command's area of responsibility as directed by the National Command Authority, the Joint Staff, and U.S. Transportation Command.

Photograph by Staff Sgt. Jason Robertson, USA

As of Aug. 9, Transportation Command had shipped 701 MRAPs and MRAP-like vehicles to the Central Command area, Bauer said. The command will continue to ship vehicles as military commanders in theater request them.

MRAPs come in three categories. Category I vehicles are designed for urban combat operations and can transport six people. Category II vehicles have multi-mission capabilities, including convoy lead, troop transport, ambulance, explosive ordnance disposal, and combat engineering and can transport up to 10 people. Category III vehicles perform mine and IED clearance operations and explosive ordnance disposal and can transport six people, or five with additional equipment. The Buffalos that were shipped Thursday fall under Category III.

The troops who participated in loading the vehicles yesterday told local media that they feel their job is important because the MRAPs have been proven to save lives in combat. "It's absolutely critical. It saves lives every day when they have them," Air Force Master Sgt. Jared Breyer, with the 437th Airlift Wing, told ABC News.

Wood writes for the American Forces Press Service.

AIR FORCE PRINT NEWS (AUG. 21, 2007)
DEFENSE PROCUREMENT DIRECTOR PROMOTES BALANCED ACQUISITION

Rudy Purificato

BROOKS CITY-BASE, Texas—The Defense Department's top procurement executive shared his views with contract specialists regarding strategic sourcing designed to maximize efficiency in how the federal government procures goods and services Aug. 16 at Brooks City-Base.

Shay Assad, the director of Defense Procurement and Acquisition Policy, held local town hall meetings to discuss DoD initiatives and strategies for improving support to America's warfighters while balancing the need to spend taxpayers' money more effectively.

Assad, who has been on the job since April 2006, oversees the obligation of $300 billion annually for the acquisition of all major weapon systems, automated information systems, and services within DoD.

In the News

His nationwide tour of military installations to talk directly to the federal acquisition community was made in response to his commitment as DoD's primary change agent for the implementation of strategic sourcing for goods and services.

"We [DoD) spend more than $150 billion a year on services. We've got to get it right in terms of being extremely focused on the kinds of goods and services we buy," Assad said.

He said there is more scrutiny today by Congress, the media, and the American public of questionable government expenditures than that which may have existed in the past.

"There is more emphasis on how we buy services and recommendations to conserve," said Assad referring to dwindling federal resources and budget constraints. The DoD acquisition community is developing tools to conduct market research to assist the contracting workforce in finding a fair and equitable price for goods and services.

"We serve warfighters and taxpayers," he said. "When we negotiate a deal, we must take both of them into account."

He encouraged federal workers to use initiatives "to increase our buying power."

Assad said these initiatives are immeasurably important to helping maximize the limited government resources of our nation at war.

*Purificato is with 311th Human Systems Wing.*ARMY NEWS SERVICE (AUG. 17, 2007)

Shay Assad discusses his philosophy of being accountable to the warfighter and taxpayer when dealing with contractors during a town hall meeting with Brooks City-Base contracting members Aug. 16 at Brooks City-Base, Texas. Assad is the Defense Procurement and Acquisition Policy and Strategic Sourcing director.   *U.S. Air Force photograph by Steve Thurow*

NEW CHINOOK UNVEILED AT FORT CAMPBELL

Gregory Frye

FORT CAMPBELL, Ky.—Aviation history was made at Fort Campbell as a newly designed CH-47 Chinook helicopter was officially ushered into operation.

Allowing greater capability and soldier safety, the new $30 million bird was turned over to Company B, 7th Battalion, 101st Aviation Regiment, 159th Combat Aviation Brigade.

"How appropriate that we come together here with this aircraft at this installation with this unit," said Maj. Gen. Jeffrey Schloesser, 101st Airborne Division commander.

In the News

Chief Warrant Officer 4 David Watson, standardization instructor pilot, and Chief Warrant Officer 4 Tom Miskowiec, standardization instructor pilot and instrument flight examiner, 7th Battalion, 101st Aviation Regiment, 101st Airborne Division, fly a new CH-47F using the Advanced Flight Control System.
Photograph by Gregory Frye

Most known for its tandem rotors and heavy-lift capabilities, the helicopter can fly in extremely high altitudes and handle cargo unlike any other aircraft.

Now with digital screens instead of analog gauges, the new Advanced Flight Control System improves situational awareness by allowing pilots to easily upload such mission details as routes and altitudes. A revamped airframe designed for 10,000 flight hours also eliminates extraneous vibrations and maintenance time.

"It provides more capability at an easier maintenance cost than ever before," Schloesser said.

Safety is the best thing about the new model, said Chief Warrant Officer 4 Tom Miskowiec, standardization instructor pilot and instrument flight examiner, 7th Bn., 101st Avn. Regt. "In safety there's capability. When we

can do it safer and easier, it provides us with more abilities to support the warfighter."

Boeing worked with the Army for three years to design and prepare the new model, the first conventional Chinook upgrade in more than 20 years.

"The CH-47F is a fully modernized aircraft that will fully meet the operational challenges that our Army and our country face now and in the future," said Chuck Allen, vice president and general manager of rotorcraft systems, Boeing.

"It's really exciting to get a new aircraft," added Chief Warrant Officer 2 Ryan Dechent, Chinook pilot with the 7th Bn., 101st Avn. Regt. "I think it's going to extend our capabilities and open new avenues that we haven't been able to go down before."

More than 100 CH-47F Chinooks will be built from the ground up, while other Chinooks will be rebuilt to state-of-the-art standards.

Frye writes for the Fort Campbell Courier.

In the News

NEW GLOBAL LOGISTICS UNIT TO BE HEADQUARTERED AT SCOTT

WRIGHT-PATTERSON AIR FORCE BASE, Ohio—Air Force Materiel Command officials announced Aug. 30 that the Global Logistics Support Center headquarters will be located at Scott Air Force Base, Ill.

The Global Logistics Support Center, or GLSC, will stand up in fiscal 2008 and serve as the Air Force's supply chain manager.

The decision to locate the GLSC headquarters at Scott AFB came after considering many potential sites, said Col. Brent Baker, the GLSC Provisional Office commander.

"Scott AFB provides the best balance of supply chain knowledge and operational focus," Baker said. "In short, Scott AFB provides the GLSC with a headquarters that is operationally focused and will be co-located with key supply chain activities such as U.S. Transportation Command and the Tanker Airlift Control Center.

"This decision only applies to the GLSC headquarters, which will stand up with approximately 16 people in fiscal year 2008," Baker said. "The existing supply chain processes remain in place and will be 'virtually integrated' into the new center, requiring few, if any, personnel relocations. This is an important message we need to communicate to our workforce and interested politicians."

GLSC headquarters will be co-located with the Supply Chain Operations at Scott AFB. The GLSC headquarters staff will perform the following functions:
- Ensure GLSC is focused on warfighter operations
- Integration of supply chain manager functions
- Care and feeding of functional staff
- Work memorandums of agreement across all necessary support relationships
- Point of entry for GLSC updated policy and guidance
- Coordinate all taskings in and out of the GLSC.

The 375th Airlift Wing at Scott AFB will support the GLSC headquarters staff.

Overall, GLSC will be a geographically dispersed organization with six operating locations. In addition to Scott AFB, these include Hill AFB, Utah; Langley AFB, Va.; Robins AFB, Ga.; Tinker AFB, Okla.; and Wright Patterson AFB.

"The two most important points, which cannot be emphasized enough, are that the GLSC will be an 'operational center,' and the vast majority of the people in the GLSC will remain at their current operational locations," Baker said.

The GLSC will support a concept of operations that integrates supply chain processes into a single end-to-end enterprise. When combined with other key logistics initiatives, this will help the Air Force meet its Expeditionary Logistics for the 21st century, or eLog21, goals of reducing annual operating support costs by 10 percent and increasing equipment availability by 20 percent.

The GLSC will be organized around three main supply chain functions: Supply chain planning and execution, or SCPE; supply chain operations, or SCO; and supply chain strategy and integration, or SCS&I.

People in SCPE will be located at Robins, Tinker, and Hill AFBs. Overall staffing will be approximately 3,000 people. Most will remain at their respective operating locations. Officials project an SCPE headquarters staff of five people to reside at Tinker AFB, although this decision is not final. SCPE provides direct interaction with the system program directors and system program managers at each center for requirements identification to ensure realistic and flexible enterprise planning.

People in SCO will be located at Scott, Langley, Robins, Tinker, and Hill AFBs. Overall staffing will be approximately 1,000 people. Most will remain at their respective Combat Air Forces and Mobility Air Forces logistics support centers and AFMC's three air logistics centers. An SCO headquarters staff of approximately five people will reside at Scott AFB. This organization ensures fast, effective customer support across the Air Force enterprise.

People in SCS&I will be located at Wright-Patterson AFB. This includes leadership and workers—approximately 200 people. Most currently are located at Wright-Patterson AFB and perform the majority of current SCS&I functions. An SCS&I headquarters staff of approximately five people will also reside at Wright-Patterson AFB. This allows direct connection with the Headquarters AFMC functional staff and ensures integration with other eLog21 initiatives.

Courtesy of Air Force Materiel Command Public Affairs.

Spotlight on DAU Learning Resources

DAU MIDWEST REGION AND AIR FORCE INSTITUTE OF TECHNOLOGY SCHOOL OF SYSTEMS AND LOGISTICS (AFIT/LS) SIGN STRATEGIC PARTNERSHIP AGREEMENT

Bernadette M. Crumb

KETTERING, Ohio—Carl D. Hayden, acting dean, Defense Acquisition University (DAU) Midwest Region in Kettering, Ohio, and Air Force Col. Diana J. Schulz, dean, Air Force Institute of Technology School of Systems and Logistics (AFIT/LS), signed a memorandum of understanding on Aug. 17, 2007, at the DAU Midwest campus in Kettering, Ohio. Under the terms of the MOU, the Defense Acquisition University and AFIT/LS agree to work collaboratively in order to provide educational opportunities for the currently enrolled and potential acquisition, technology, and logistics (AT&L) students of each institution.

The MOU validates the spirit of cooperation and collaboration between AFIT/LS and DAU Midwest, and it provides improved learning support and knowledge management to the overall AT&L community. AFIT/LS and DAU Midwest will share training resources and best practices; collaborate on development of course topics and course content; and participate jointly as instructors, panel members, and guest speakers in the two organizations. Most importantly, AFIT/LS instructors will become certified to teach the DAU CON 120 Mission Ready Contracting Officer (MRCO) course, allowing more MRCO classes to be taught to Air Force AT&L workforce personnel.

The Air Force Institute of Technology School of Systems and Logistics (AFIT/LS) provides DoD managers with high-quality continuing education in a variety of functional management areas including contracting, acquisition, quantitative, logistics and sustainment, financial, and engineering management in various disciplines. The AFIT/LS faculty is a unique combination of over 80 Air Force, Army, and Navy officers, and DoD civilians who combine extensive practical field experience with academic expertise and a driving desire to provide whatever education, consulting, research, and other academic support requirements customers need.

DAU Midwest Region, Kettering, Ohio, serves the 12 surrounding Midwest states and has a number of strategic partnership agreements and learning organization agreements within the area's academic communities. Strategic partnership agreements have been made with the following institutions: Bellevue University, Central Michigan University, Cuyahoga Community College, DeVry University, Eastern Michigan University, Indiana Wesleyan University, Lawrence Technological University, National-Lewis University, Park University, Sinclair Community College, Webster University, Wilberforce University, Wright State University, University of Dayton, and University of Missouri-Rolla. Learning organization agreements have been made with the Defense Institute of Security Assistance Management (DISAM) at Wright-Patterson Air Force Base, as well as with a cooperative of several federal and DoD AT&L organizations in the Scott Air Force Base and St. Louis Gateway area.

Crumb is with DAU Midwest Region.

DAU CONTINUOUS LEARNING CENTER MODULES

The Defense Acquisition University Continuous Learning Center (CLC) at < http://clc.dau.mil/ > is a Department of Defense resource dedicated to the delivery of continuous learning opportunities supporting the acquisition, technology, and logistics workforce. To fulfill the DoD AT&L requirement for obtaining 80 continuous learning points every two years, the DAU Continuous Learning Center offers a wide variety of continuous learning modules, varying from one to 12 hours in length. Modules added recently follow:

- Title 10 Limitations on the Performance of Depot-level Maintenance (50/50)–CLL 024
- Title 10 Depot Maintenance Statute Overview–CLL 022
- Title 10 U.S.C. 2464 Core Statute Implementation–CLL 023.

Modules Coming Soon

- ADL Implementation for Defense Acquisition Professionals
- Foundations of Government Property
- Organizational Conflicts of Interest
- Physical Inventories
- Introduction to Cost Risk Analysis (CLB 024).

Harvard ManageMentor 10 Update

A new version of the Harvard ManageMentor 10 modules was introduced through the CLC portal at < http ://clc.dau.mil > on Sept. 1, 2007. Features and benefits include:

- a media-based scenario that provides a topic overview, and offers multiple paths through the module content
- key ideas of the topic with interactive activities such as short video clips of relevant, compelling stories told by leading global business executives
- real-world, interactive scenarios and self-tests to check understanding of the concepts

Spotlight on DAU Learning Resources

- practical steps, tips, and tools for applying concepts on the job including downloadable forms and worksheets
- embedded online articles, recommended additional articles and books, and source notes for the module
- audio downloads for MP3 players and functionality to mark users' favorite pages included.

Preview a sample module at < http://corporatelearning. hbsp.org/demos/hmm10/strategic_thinking/get_started. html >. Register for all modules at < http://clc.dau.mil >.

DEFENSE ACQUISITION UNIVERSITY MIDWEST REGION (AUG. 3, 2007)
DAU MIDWEST REGION PARTNERS WITH DEFENSE INSTITUTE OF SECURITY ASSISTANCE MANAGEMENT (DISAM)

Bernadette M. Crumb

Carl Hayden, acting dean, Defense Acquisition University (DAU) Midwest Region in Kettering, Ohio, and Dr. Ronald H. Reynolds, commandant, Defense Institute of Security Assistance Management (DISAM), signed a learning organization agreement (LOA) on Aug. 2, 2007, at the DAU Midwest campus in Kettering, Ohio. Under the terms of the LOA, the Defense Acquisition University and DISAM agree to work collab-oratively in order to provide educational opportunities for the currently enrolled and potential students of each institution.

The LOA validates the spirit of cooperation and collaboration between DISAM and DAU Midwest, and it provides improved learning support and knowledge management to the overall acquisition, technology, and logistics community. DISAM and DAU Midwest will share best business practices, exchange information on relevant management processes and tools, and participate jointly in training and curriculum development in the two organizations.

DISAM was established in September 1976 on Wright-Patterson Air Force Base and provides professional education, research, and consultation services to security assistance managers throughout the United States and overseas. The institute is chartered as the singularly dedicated Department of Defense educational activity to advance an understanding of the complex laws, policies, and procedures associated with security assistance.

For further information, contact Bernadette M. Crumb, DAUMW, at bernadette.crumb@dau.mil or call 937-781-1047.

A Six-pack of Tips for Defense AT&L Authors

1 Look at back issues of the magazine. If we printed an article on a particular topic a couple of issues ago, we're unlikely to print another for a while—unless it offers brand new information or a different point of view.

2 We look on articles much more favorably if they follow our author guidelines on format, length, and presentation. You'll find them at < www.dau.mil/ pubs/dam/DAT&L%20author%20 guidelines.pdf >.

3 Number the pages in your manuscript and put your name on every page. It makes our life so much easier if we happen to drop a stack of papers and your article's among them.

4 Do avoid acronyms as far as possible, but if you must use them, define them— every single one, however obvious you think it is. We get testy if we have to keep going to acronym finder.com, especially when we discover 10 equally applicable possibilities for one acronym.

5 Fax the *Certification as a Work of the U.S. Government* form when you e-mail your article because we can't review your manuscript until we have the release. Download it at < www.dau.mil/pubs/dam/ DAT&L%20certification.pdf >. Please don't make us chase you down for it. And please fill it out completely, even if you've written for us before.

6 We'll acknowledge receipt of your submission within three or four days and e-mail you a publication decision in four to five weeks. No need to remind us. We really will. Scout's honor.

Career Development

DEFENSE ACQUISITION STRUCTURES AND CAPABILITIES REVIEW REPORT

Section 814 of the National Defense Authorization Act (NDAA) for Fiscal Year (FY) 2006 directed the Defense Acquisition University (DAU), under the authority of the Office of the Under Secretary of Defense for Acquisition, Technology and Logistics, to review acquisition structures and capabilities of the Department of Defense (DoD).

This review included the military departments, defense agencies, and other DoD organizations with significant acquisition functions. In light of recently completed reports that addressed broader acquisition issues, this review focused on organizational structures and workforce. The scope included surveying 64 organizations in the military departments, 17 defense agencies and field activities, and three combatant commands (COCOMs); and interviewing 46 executives and thought leaders in related fields. Also, more than 150 reports, books, and documents were reviewed along with DoD acquisition program outcomes over the past 25 years.

This is the most comprehensive review of the DoD acquisition workforce since the congressional studies leading to passage of the 1991 Defense Acquisition Workforce Improvement Act (DAWIA). This report, which presents the results of the review, covers three major areas: organization, workforce, and recommendations. The report was provided to the Congress on June 26, 2007.

View the report at < http://www.dau.mil/Spotlight/doc/Final%20Final%20Report.pdf >.

AIR FORCE PRINT NEWS (AUG. 22, 2007)
AIR FORCE OFFICIALS ANNOUNCE 2008 FORCE-SHAPING PLANS

Staff Sgt. Monique Randolph, USAF

WASHINGTON—Air Force officials recently announced plans to meet the 2008 fiscal year end-strength of 328,600, which calls for a force reduction of about 5,400 officers and enlisted members through normal attrition, retirement, or force-shaping measures.

The reductions are in line with Air Force efforts to balance the force and recapitalize and modernize aging weapons systems.

Officials believe a vast majority of the reductions will come from normal attrition, said Col. Chuck Armentrout, the chief of the military force management policy division.

This leaves only about 645 officer losses as a result of force shaping measures, a number significantly lower than last year's goal. To achieve the required end strength, Air Force officials will offer limited programs for voluntary separations and retirements, as well as a force-shaping board to achieve a limited number of involuntary separations.

"The (2008) force-shaping program will again be targeted by skill and year group, and is primarily officer-focused. However, we will require far fewer losses in fiscal 2008," Armentrout said.

The Air Force will begin the 2008 force shaping program by offering voluntary separation pay to approximately 200 officers in overage career fields with 12 to 15 years time in service. Officers approved for VSP will receive a lump sum payment equal to three times the standard involuntary separation pay rate, but must separate before June 30, 2008. Eligible officers will be able to submit applications for VSP from Sept. 5 of this year until the force-shaping goals are reached, or March 31, 2008—whichever occurs first.

Additionally, under the 2008 program, officers with a minimum of 20 years' active service and at least eight years of commissioned service may apply for retirement.

Eligible colonels and lieutenant colonels may also apply for a waiver to retire with two years' time in grade instead of three. Retirement dates must be no later than Sept. 1, 2008.

The Air Force will also hold a force-shaping board in March 2008 to reduce the force by approximately 130 officers in overage career fields in the 2005 year group. In addition to career fields that are short or balanced, airmen in the 14N and 32E specialties will be exempt from the board.

Currently, no service commitment waivers are offered to enlisted members under the 2008 force-shaping program.

"For the enlisted force, we will be able to use the tools we have in place to adjust and keep the force balanced," Armentrout said. "As we go through the year, we assess [the process], and if it doesn't look like the goal is going to materialize, we'll look at waiving service commitments for enlisted."

The new force-shaping message supersedes prior messages. Other force-shaping programs such as "Blue to Green" for of-

Career Development

ficers and enlisted and the enlisted retraining program remain open. The expanded Palace Chase program for fiscal 2008 remains open only for officers in the 2005 commissioned year group. Other officers and enlisted airmen may apply for Palace transfers to the Guard or Reserve, according to Air Force Instruction 36-3205.

Randolph writes for Secretary of the Air Force Public Affairs.

EXCELLENCE IN GOVERNMENT ACQUISITION FELLOWS SURVEY
MENTORING SERVICES FROM RETIRED FEDERAL CONTRACTING EXPERTS

Members of the FY2007 cohort of the Council for Excellence in Government's Acquisition Fellows Program are embarking upon a "Results Project" to explore the level of interest of retired federal contracting employees in working part-time as rehired annuitants to mentor and offer on-the-job training to new federal contracting employees. If you are a federal contracting employee who is eligible within the next two years to retire or have retired within the past two years from Federal services, we are interested in your participation in this project. Take this brief survey now at <www.fai.gov/news/survey.asp>. The results will be published through the National Contract Management Association.

MANAGERS' SURVEY FOR HIRING RETIRED FEDERAL CONTRACTING EXPERTS

Members of the FY2007 cohort of the Council for Excellence in Government's Acquisition Fellows Program are asking managers of acquisition personnel to take a survey focusing on the rehiring of retired annuitants. This survey will help determine whether or not agency managers have an interest in hiring retired annuitant personnel to mentor and offer on-the-job training to new acquisition personnel. Take this brief survey now at <www.fai.gov/news/survey.asp>. Results will be published through the National Contract Management Association.

DEPARTMENT OF DEFENSE NEWS RELEASE (JULY 30, 2007)
NEW JOINT QUALIFICATION SYSTEM ENHANCES OFFICER MANAGEMENT

The Department of Defense announced the details of a new joint qualification system (JQS), which will help to identify military personnel who pos-

sess the abilities needed to achieve success in the joint/interagency environment. This new program will allow DoD to better incorporate an officer's joint experiences and qualifications into assignment, promotion, and development decisions.

Inherent in this new system is the ability to recognize the skills that aid U.S. military efforts to respond to national security threats, as well as interagency, combat operations, and humanitarian crises at home and abroad. A four-level system serves to enhance the tenets of jointness set forth in the Goldwater-Nichols Department of Defense Reorganization Act (GNA) of 1986 and will be implemented for all Services on Oct. 1, 2007.

While officers may still earn designation as a joint qualified officer, formerly known as a joint specialty officer, by completing the requisite joint professional military education and a standard-joint duty assignment, officers may also earn qualifications by accumulating equivalent levels of joint experience, education, and training. The experience-based system awards points in tracking the progression through successive qualification levels, while accounting for the intensity, environment, and duration/frequency of each joint activity.

The system encourages officers' career-long development of joint expertise because it recognizes experiences earned from commissioning to retirement. Earning these joint qualifications is vital for officers who wish to advance their careers to the highest level. As of Oct. 1, 2008, active component officers must have completed a full joint duty assignment and be designated a joint qualified officer in order to be appointed to the rank of general or flag officer.

The JQS also represents a "total force" approach that allows active and reserve component (RC) officers to earn the same joint qualifications. Recognizing that the reserve components lacked the opportunity to receive joint credit since the inception of the GNA in 1986, RC officers who served in qualifying joint assignments under provisions of Title 10 U.S.C., Chapter 38, that were in effect from Oct. 1, 1986, until Sept. 30, 2007, may be awarded joint duty credit. Additionally, all officers may self-nominate their joint activities for point recognition dating back to Sept. 11, 2001, enabling the recognition of joint experience outside of traditional joint duty assignment positions.

JOINING DARPA AS A PROGRAM MANAGER STARTS WITH YOUR IDEA

Are you a scientist or engineer with a radical idea (or ideas) that you believe could provide meaningful change of lasting benefit for the U.S. military? Would you like to lead the country's most capable academic and industrial experts to make that idea become reality in a period of just a few years? If so, you should consider joining the Defense Advanced Research Projects Agency (DARPA) as a program manager.

What is a DARPA PM? A DARPA program manager is...
- An idea generator
- A technical expert
- An entrepreneur
- A visionary
- A patriot dedicated to national service.

DARPA embraces high-risk, high-payoff ideas that lead to new capabilities for the U.S. men and women in uniform. This is one of the reasons DARPA is such a unique place to work.

All DARPA program manager positions are located in Arlington, Va. Candidates must be U.S. citizens to meet the requirements for a government security clearance. Learn about a day in the life of a program manager at < www. darpa.mil/hrd/ >. Learn more about DARPA, its culture, and its employees throughout the DARPA Web site at < www.darpa.mil >.

AMERICAN FORCES PRESS SERVICE (JULY 18, 2007)
PROGRAM HIGHLIGHTS WOMEN'S CONTRIBUTION TO FEDERAL SERVICE

John J. Kruzel

WASHINGTON—Over the years, women equipped with industry acumen and armed with advanced degrees have climbed ladders and shattered the glass ceiling that had once stunted their career growth. To train and mentor aspiring female professionals in the federal sector, a group known as Federally Employed Women, or FEW, began a training program in 1970.

About 50 participants gathered July 16 for the Defense Department's forum on women's affairs, one installment in a series of courses and lectures at the 38th annual FEW seminar, which ran through July 20 at the Hilton Washington Hotel.

"Up until the 1940s, only a handful of agencies hired women," said Tina Jonas, the keynote speaker and Defense Department's comptroller and chief financial officer. "Some of the offices, including the U.S. Patent Office, provided billets for women, but the women had to work at home, and their paychecks were made out in the name of their male relatives."

Women's contribution to the workforce today is invaluable, said Jonas, the first woman to serve as DoD's comptroller.

"We simply would not be able to manage without women," she said. "At the Pentagon, women fill every role in the civil service and throughout the armed services, including admiral and general."

As comptroller, Jonas manages an office that comprises about 60 budget analysts and other accountants who, she said, put together roughly $750 billion worth of budgetary requests in "record time." Last year, the staff earned the Presidential Rank Award, which recognizes and celebrates a small group of career senior executives for exceptional long-term accomplishments.

Forty-nine percent of those workers are women who fulfill leading roles, Jonas said. For example, the assistant deputy chief financial officer, director for military personnel and construction, and director of operations are women.

"I would say that their leadership is absolutely key to the defense of the nation and to the efficient and effective management of the nation's dollars," she said. "It's not an easy job."

The team, which has near-equal gender representation, managed a $481 billion 2008 base budget, a $142 billion war on terrorism budget, and $100 billion of emergency supplement funding from Congress.

"We are a complex organization," she said. "We're bigger than Ford, General Motors, Exxon, or even Wal-Mart." Jonas addressed the contributions of women in uniform, including Master Sgt. Artri Spratling, who opened the forum by singing the national anthem.

"I always get a little chill up my spine when I hear the anthem, and the master sergeant who sang today was really good at her job," Jonas said. "There are women across the military, from her job all the way across the department,

working in theater, flying airplanes; this is a wonderful department. It's a great place for women."

Kruzel writes for American Forces Press Service.

AIR FORCE PRINT NEWS (JULY 12, 2007)
AIR FORCE STREAMLINES OFFICER, ENLISTED EVALUATION FORMS

WASHINGTON—Air Force officials are introducing new officer and enlisted evaluation forms as the Air Force transforms its personnel processes.

The major part of this effort has been directed at reducing the workload associated with preparing officer and enlisted performance reports while ensuring the evaluation process remains fair and provides for accurate portrayal of performance.

The change also includes the much-anticipated addition of physical fitness documentation to both evaluation and feedback forms.

Although the Air Force used a competency-based performance evaluation and feedback process, the changes to the evaluation forms make them a more user-friendly, value-added product that accurately reflects an airman's performance.

"Daily support to combatant commanders worldwide and the constant requirement to provide training and support to airmen and their families have placed a heavy workload on our entire force," said Lt. Gen. Roger A. Brady, Air Force deputy chief of staff for manpower and personnel. "The reality is that we cannot continue to accept cumbersome processes that impact our ability to operate at a high tempo. At the same time, we need to ensure that our evaluation processes fairly and accurately reflect performance."

Both the officer and enlisted performance reports were shortened and technologically enhanced to decrease the time required to accomplish the report. The OPR narrative lines were significantly reduced, and the unit mission description and impact on mission accomplishment areas were eliminated.

While the former OPR had six performance factor blocks to rate job knowledge, leadership skills, professional qualities, organizational skills, judgment and decisions, and communication skills, the new form has one block to be used to indicate that all standards are met. If an officer does not meet standards, the new OPR allows for more detailed information to be provided.

EPR narrative comments were also significantly reduced, and performance assessment areas now reflect the increased responsibility airmen are charged with as they progress in rank.

On performance feedback worksheets, performance assessment areas are now evaluated on a standardized criterion using "Does not Meet," "Meets," "Above Average," and "Clearly Exceeds" criterion. The immediate rater's comments are also aligned to the respective performance assessment areas on the front side.

Comments by commanders and supervisors over several years indicate these changes will significantly reduce the administrative burden without negatively affecting their ability to provide an accurate assessment of an individual's performance and potential.

Implementation dates for the new evaluation forms for all ranks are as follows:
- Officers: Aug. 15, 2007
- Airman basic to senior airman: Aug. 15, 2007
- Staff sergeant: Jan. 1, 2008
- Technical sergeant: Jan. 1, 2008
- Master sergeant: Oct. 1, 2007
- Senior master sergeant: Aug. 1, 2007
- Chief master sergeant: Aug. 15, 2007
- Premier band: April 1, 2008
- Air Force Reserve and Air National Guard (airman basic to chief master sergeant): Aug. 15, 2007.

The new IMT [Internet Media Type] performance report and performance feedback worksheets are available on the Air Force e-Publishing Web site at < www.e-publishing.af.mil/ >.

Questions should be directed to HQ AFPC/DPPPEP, evaluations programs management branch, at DSN 665-2571 or e-mail AFPC.DPPPE@randolph.af.mil.

AMERICAN FORCES PRESS SERVICE (JULY 18, 2007)
PROGRAM HELPS DISABLED VETS GET DEFENSE BUSINESS CONTRACTS

Gerry J. Gilmore

WASHINGTON—Thousands of disabled military veterans have enrolled in a government-wide program that's designed to help them succeed

in new careers as business owners, a Defense Department official said July 18.

The Service-Disabled Veteran-Owned Small Business Office was established at the Pentagon by an October 2004 presidential executive order and federal legislation that stipulates 3 percent of all annual military contracting will go to small businesses operated by Service-disabled veterans, said Anthony R. Martoccia, the director of the Office of Small Business Programs at the Pentagon.

Military contracting officers in the field are on the lookout for disabled-veteran-owned businesses to provide services for the government, Martoccia said.

There is "a strong focus" by Defense Secretary Robert M. Gates and other senior officials to ensure the program is fully implemented, he said.

More than 24,000 servicemembers have been wounded or injured on duty since the war on terrorism began on Sept. 11, 2001, Martoccia said. Many of these veterans have had to leave the military due to disabling injury.

The SDVOSB program is geared toward helping disabled veterans establish second careers as entrepreneurs who do business with DoD, he said. The program is open to disabled veterans from all the nation's wars and all branches of military service.

"There's a lot of work out there, obviously, and there's a lot of opportunity," Martoccia said. Last year, the SDVOSB program registered more than 5,000 businesses. Today, disabled-veteran-owned businesses account for more than $1 billion in government contracts.

The Pentagon is putting the word out to military contracting officers about the government-wide goal to award 3 percent of contracts to businesses owned by disabled veterans, Martoccia said. "A lot of these companies can really get some business with the federal marketplace," he said.

Gilmore writes for American Forces Press Service

Conferences, Workshops & Symposia

DAU ALUMNI ASSOCIATION SPONSORS RESEARCH PAPER COMPETITION

Paul Alfieri

The Defense Acquisition University Alumni Association (DAUAA), in partnership with the DAU Research Department, is sponsoring a research paper competition. The winners will be announced at the DAUAA Symposium in April 2008.

This competition and the 2008 symposium will:
- award $1,000 to the first prize winner, $500 to the second prize winner
- enhance the professional stature of DoD acquisition, and officially recognize outstanding research efforts within the acquisition community
- facilitate learning and knowledge sharing in conjunction with the theme of the annual DAU Acquisition Community Symposium
- generate author recognition of acquisition-related research studies/articles for future publication in the *Defense Acquisition Review Journal* (ARJ).

Ground Rules
- The competition is open to anyone interested in the DoD acquisition system and is not limited to government or contractor personnel.
- Employees of the federal government (including military personnel) are encouraged to compete and are eligible for cash awards unless the paper was researched or written as part of the employee's official duties or was done on government time. If the research effort is performed as part of official duties or on government time, the employee would be eligible for a non-cash prize, i.e., certificate and donation of cash prize to a Combined Federal Campaign-registered charity of winner's choice.
- The format of the paper must be in accordance with guidelines for articles submitted for the *Defense Acquisition Review Journal,* which can be found on the DAU Web site at <www.dau.mil>.
- The theme for 2008 is: "Defense Life Cycle Management: Sustaining DoD Weapons Systems." (Please note that this is related to and part of the theme of the 2008 DAU Acquisition Community Symposium and the theme of the 2nd Quarter Issue of *Defense Acquisition Review Journal*.)
- Papers should be submitted to the DAU director of research: Dr. Paul Alfieri, 703-805-5282 or paul.alfieri@dau.mil.
- Papers will be judged by the *Defense Acquisition Review Journal* editorial staff, and winners will be selected for prizes by the DAUAA board of directors.

Research Papers are due Nov. 15, 2007. Winners will be announced and papers will be presented at the DAUAA 2008 Acquisition Community Symposium on April 15, 2008.

Alfieri, a professor at the Defense Acquisition University Fort Belvoir, Va., campus, is executive editor of the Defense Acquisition Review Journal.

DARPA ANNOUNCES THIRD GRAND CHALLENGE

The Defense Advanced Research Projects Agency (DARPA) has announced plans to hold its third Grand Challenge competition on Nov. 3, 2007. The DARPA Urban Challenge will feature autonomous ground vehicles executing simulated military supply missions safely and effectively in a mock urban area. Safe operation in traffic is essential to U.S. military plans to use autonomous ground vehicles to conduct important missions. DARPA will award prizes for the top three autonomous ground vehicles that compete in a final event where they must safely complete a 60-mile urban area course in fewer than six hours. The DARPA Grand Challenge Web site <www.darpa.mil/grandchallenge> is the primary resource for information about the Urban Challenge event.

19TH ANNUAL INTERNATIONAL INTEGRATED PROGRAM MANAGEMENT CONFERENCE

The 19th Annual International Integrated Program Management Conference will be held Nov. 5–7, 2007, at the Hilton Alexandria Mark Center, in Alexandria, Va. This year's event is co-sponsored by the National Defense Industrial Association, the Project Management Institute-College of Performance Management, and the Society of Cost Estimating and Analysis.

Conference highlights will include special guest speakers, professional education training seminars, practice symposia, topical workshops, tools track, as well as networking opportunities. Participants will earn 15 Professional Development Units (PDU).

If you would like to present at the conference, contact one of the following coordinators:
- Practice Symposia: Ray Stratton, raystratton@mgmt-technologies.com
- Training: Frank Anbari, anbarif@aol.com
- Tools Track: Efrain Pacheco, efrain.pacheco@techsigmapm.com

Conferences, Workshops & Symposia

Do you develop and implement PBL strategies?

Then you *really* need to know about DAU's PBL Toolkit.

The Performance-Based Logistics Toolkit is a unique Web-based resource, hosted by the Defense Acquisition University, that provides PMs and logistics managers a step-by-step process and readily available resources to support them in designing and implementing PBL strategies.

The user-friendly online PBL Toolkit is aligned with current DoD policy and is available 24/7 to provide—
- A clear definition and explanation of each PBL design, development, and implementation process step
- The expected output of each process step
- Access to relevant references, tools, policy/guidance, learning materials, templates, and examples to support each step of the process.

The PBL Toolkit is an interactive tool that allows you to—
- Contribute knowledge objects
- Initiate and participate in discussion threads
- Ask questions and obtain help
- Network with members of the AT&L community and learn from their experiences.

To guide you through the development, implementation, and management of performance-based logistics strategies— count on the PBL Toolkit from DAU.

You'll find it at < **https://acc.dau.mil/ pbltoolkit** > .

DoD Announces "Wearable Power" Prize Competition

The former Director, Defense Research and Engineering John Young today announced a public prize competition to develop a wearable electric power system for warfighters. The competition will take place in the fall of 2008 and the prizes are $1 million for first place, $500,000 for second place, and $250,000 for third place.

The essential electronic equipment that dismounted warfighters carry today—radios, night vision devices, global positioning system—run on batteries. This competition will gather and test the good ideas for reducing the weight of the batteries that servicemembers carry. The prize objective is a wearable, prototype system that can power a standard warfighter's equipment for 96 hours but weighs less than half that of the current batteries carried. All components, including the power generator, electrical storage, control electronics, connectors, and fuel must weigh 4 kilograms or less, including any attachments.

Prizes will be awarded to the top three teams in a final competitive demonstration planned for the fall of 2008. At this "wear-off," individuals or teams will demonstrate their prototype systems under realistic conditions. The top three competitors that demonstrate a complete, wearable system that produces 20 watts average power for 96 hours but weighs less than 4 kilograms (8.8 lbs.) will win the prizes.

A public information forum will be held in September in the Washington, D.C. area to brief potential competitors on the technical details, the competition rules, and qualification requirements. Competitors must register to participate in the prize program by Nov. 30, 2007.

The competition is open for international participation; however, the individual or team leader must provide proof of U.S. citizenship. Details on the forum as well as contest registration and rules are posted on the Defense Research and Engineering Prize Web site < www.dod.mil/ddre/prize > .

Register by Nov. 30, 2007

Conferences, Workshops & Symposia

- Workshops: Joe Houser at jrhouser@kmsystemsgroup. com or Kevin Martin at klmartin@kmsystemsgroup. com.

The IPM program manager is Susan Wood, PMI-CPM Vice President for Conferences and Events, at VPConf&Events@pmi-cpm.org.

11TH ANNUAL SMALL BUSINESS CONFERENCE

The 11th Annual Small Business Conference will be held Nov. 7-8, 2007, at the Hilton McLean Hotel at Tysons Corner, McLean, Va. Conference information will be posted online as it becomes available at < www.ndia.org >, click on "Schedule of Events." The point of contact for this year's conference is Britt Bommelje at bbommelje@ndia.org or 703-247-2587.

DAU AND NDIA TO SPONSOR DEFENSE SYSTEMS ACQUISITION MANAGEMENT COURSE OFFERINGS FOR INDUSTRY MANAGERS

DAU and the National Defense Industrial Association will sponsor offerings of the Defense Systems Acquisition Management (DSAM) course for interested industry managers at the following locations during fiscal 2008:

- Dec. 3–7, 2007, Iberville Suites Hotel, New Orleans, La.
- March 10–14, 2008, Pointe Hilton Squaw Peak Resort, Phoenix, Ariz.
- June 9–12, 2008, Hyatt Regency Denver–Colorado Convention Center, Denver, Colo.
- Sept. 8–12, 2008, Loews Annapolis Hotel, Annapolis, Md.

DSAM presents the same acquisition policy information provided to DoD students who attend the Defense Acquisition University courses for acquisition certification training. It is designed to meet the needs of defense industry acquisition managers in today's dynamic environment, providing the latest information related to:

- Defense acquisition policy for weapons and information technology systems, including discussion of the DoD 5000 series (directive and instruction) and the CJCS 3170 series (instruction and manual)
- Defense transformation initiatives related to systems acquisition
- Defense acquisition procedures and processes
- The planning, programming, budgeting, and execution process and the congressional budget process

- The relationship between the determination of military capability needs, resource allocation, science and technology activities, and acquisition programs.

For further information see "Courses Offered" under "Meetings and Events" at < www.ndia.org >. Industry students contact Phyllis Edmonson at 703-247-2577 or e-mail pedmonson@ndia.org. A limited number of experienced government students may be selected to attend each offering. Government students must first contact Bruce Moler at 703-805-5257, or e-mail bruce.moler@dau.mil prior to registering with NDIA.

SYSTEMS ENGINEERING ANNUAL STRATEGIC PLANNING AND DIVISION MEETING

A Systems Engineering Annual Strategic Planning and Division Meeting will be held Dec. 5–6, 2007, at the Hyatt at Fisherman's Wharf in San Francisco, Calif. Conference information will be posted online as it becomes available at < www.ndia.org >, click on "Schedule of Events." The point of contact for this annual meeting is Britt Bommelje at bbommelje@ndia.org or 703-247-2587.

24TH ANNUAL TEST AND EVALUATION CONFERENCE

The 24th Annual Test and Evaluation Conference will take place Feb. 25–28, 2008, at the Hilton Palm Springs in Palm Springs, Calif. This national conference is invaluable to those tasked with directing and executing system development programs for the Department of Defense, Department of Homeland Security, Department of Energy, and other government departments tasked with various elements of our nation's security. Test planners, modeling and simulation users and developers, range operators, program managers, military personnel charged with system acquisition responsibilities, industrial professionals, and others under contract with the government to provide support to our nation's defenses will also benefit. Conference information will be posted online as it becomes available at < www.ndia.org >, click on "Schedule of Events." For more information on the 2008 conference, contact Meredith Geary, mgeary@ndia. org or call 703-247-9476.

Acquisition & Logistics Excellence

NEW GAO COST ASSESSMENT GUIDE COVERS EARNED VALUE

The Government Accountability Office (GAO) has published a GAO Cost Assessment Guide, *Best Practices for Estimating and Managing Program Cost*. It includes three chapters on Earned Value Management (EVM) with clearly explained methods, best practices, useful checklists, and case studies.

This is the first guide that links cost estimating and EVM. It offers transparency into how GAO will conduct an audit of a program's cost estimate, and it offers EVM data and tips on how to develop reliable Estimates at Completion (EACs) using cost estimating techniques.

A list of other topics discussed in detail follows:
- Managing the technical baseline and requirements
- EVM best practices checklist
- Probing schedule variances for activities on critical path
- Determining data reliability
- Determining if contractor's EAC is feasible
- Developing and executing a program surveillance plan
- Integrated baseline reviews.

The guide is an exposure draft. GAO will collect comments before issuing a final version. Browse or download the guide at < www.PB-EV.com >. Click on "Basic EVM."

AIR FORCE MATERIEL COMMAND (JULY 30, 2007)
AUTOMATED SYSTEM WILL IMPROVE PURCHASE REQUEST PROCESS

Pam Sutton and Larry Darbyshire

WRIGHT-PATTERSON AIR FORCE BASE, Ohio— For those in Air Force Materiel Command whose job requires them to manually prepare purchase requests and get them to the local contracting office, life is about to get better.

Air Force Materiel Command is preparing to introduce a new, electronic, Web-based system called the Purchase Request Process System, or PRPS. The system will automate the front end of the purchase request acquisition process and provide a paperless link to contracting, bridging the gap between requirements and contacts processes.

Delivery of PRPS capability will occur in spirals, which are like building blocks. Deploying in August, Spiral 1 supports National Stock Number-related documentation activities

such as the screening analysis worksheet, contract repair screening analysis worksheet, quality, first article, and numerous others that may be required to complete a purchase request package. In addition, an ongoing effort will begin to populate a document repository with completed activities for historical purposes.

Spiral 1 also provides for the retirement of two legacy systems: J023, the automated purchase system that provided limited computer processing for purchase requests; and J090A, the acquisition screening system that automated AFMC Form 761. Future spiral releases will provide generation of purchase request, delivery order request, military interdepartmental purchase request, or MIPR, and associated activities from the repository. This will include funding certification and the electronic hand-off of the purchase request to contracting.

AFMC is implementing PRPS because it provides the Air Force an automated solution for purchase request, delivery order request, MIPR and activities processing. It also supports Air Force Logistics Transformation goals and objectives.

In addition to the automation benefit, an estimated 5,000 users of PRPS will improve the efficiency and effectiveness of their support to warfighters by reducing administrative lead time by an estimated 22 days. In addition, it will provide visibility of contract assets and availability as well as due-in asset visibility.

A functional user group consisting of subject matter experts from AFMC's three air logistics centers and the Cryptologic Systems Group helped to develop PRPS.

Group member Lindsey Robertson said that PRPS truly places the AFMC acquisition process into the 21st century.

"Do not fear change and embrace a greater way to do business," said Robertson, a program controller at Warner Robins ALC, Robins AFB, Ga.

To prepare for field testing of PRPS, the developer of PRPS, Computer Sciences Corp., recently conducted "train-the-trainer" classroom sessions for selected site personnel at ALCs. Additional users will complete computer-based training that is integrated within the PRPS application. They will also have access to online training, reference documents, and other training aids. To assist users in their daily jobs, PRPS also includes online, context-sensitive, page-level, and field-level help.

BOOK REVIEW: *The Simplicity Cycle*, by Dan Ward

> *'Tis the gift to be simple, 'tis the gift to be free,*
> *'Tis the gift to come down where we ought to be …*

Coffee this morning was brewed by the best pot I've ever owned. The coffee was fine, but the machine, a fairly new Braun, is fantastic because it has only one control: an "On" switch. Ah, simplicity, just what you need at 5 a.m.

Dan Ward's entertaining little primer on the subject won't teach you anything about simplicity that you don't already know, but it may remind you of some ideas you've forgotten. One of these, probably the most important, is that simplicity requires lots of hard work—conscious, ruthless, and creative work. As Stephen Wolfram demonstrated (and demonstrated and demonstrated) in *A New Kind of Science*, complexity is the natural order of the universe. Left to themselves, even very simple systems will produce complexity. If you want simplicity, you have to fight for it.

It turns out, according to Ward, that any project will eventually encounter a fork in the road. A system always starts out simple—hard to get more simple than a blank sheet of paper—but then people start adding features to give it capability. After a while, it's no longer obvious how to make the thing work, and even worse, interactions between the components begin to spawn unintended consequences. At some point—the fork in the road—the people working on the project have a choice to make: Add more structure in an attempt to control the behavior of the system, or start taking things out in order to make the system more predictable and easier to use. The first choice is the easiest, since it doesn't involve difficult decisions and trade-offs, but it turns a complex system into a complicated and often useless one. The second can turn a complex system into an elegant one.

I see this in writing projects. At some point, if the book or article is going to be any good, revisions start taking more out then they put in. Words, sentences, paragraphs, sometimes even whole chapters disappear, and style and meaning begin to emerge. It can be pretty exciting. Ward's point is that if your project hasn't reached this stage, then it's still more complex—if not more complicated—than it needs to be.

Although Ward limits his discussion to design projects, complexity is also a mischievous demon in the world of strategy. As author and military historian John Boyd noted:

> *Complexity (technical, organizational, operational, etc.) causes commanders and subordinates alike to be captured by their own internal dynamics or interactions—hence they cannot adapt to rapidly changing external (or even internal) circumstances.*

> Patterns of Conflict, p. 176

Maneuver warfare, the doctrine of the Marine Corps and a modern development of blitzkrieg tactics, rests on a foundation of simplicity. General Hermann Balck, whom the Germans considered as one of their best field commanders, told Boyd that the big advantage of basing a "command and control" system on intent, trust, and initiative was that it fosters an "internal simplicity that permitted rapid adaptability," which is always useful when facing a thinking opponent.

Ward, in the manner of another system simplifier, Sun Tzu, doesn't offer up a cookbook for creating systems. Instead, he proposes and, by using clever graphs, illustrates several themes that, if you ponder them, can set you on the path to designing emotionally rewarding systems. Like Sun Tzu or Jonathan Livingston Seagull, or *The Elements of Style*, this is a little tome that you can keep in the center drawer of your desk and take out from time to time just to glance through. The book is obviously the product of its own advice: simple, functional, elegant.

Maj. Dan Ward is assigned to the Air Force Research Laboratory in Rome, N.Y. A prolific author and writer, Ward is a frequent contributor to Defense AT&L *magazine.*

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To help users, PRPS roadshows have taken place at Tinker AFB, Okla., and Robins AFB. Plans are under way to conduct a PRPS Roadshow at Hill AFB, Utah.

For more information, visit the PRPS Newsstand Web site < https://afkm.wpafb.af.mil/ASPs/CoP/OpenCoP >.

Sutton and Darbyshire are with Air Force Materiel Command Logistics Directorate.

DEPARTMENT OF DEFENSE NEWS RELEASE (JULY 31, 2007)
2007 MAINTENANCE AWARD WINNERS ANNOUNCED

The Department of Defense today announced the 2007 winners of the Secretary of Defense Maintenance Awards at the depot and field levels. These awards are presented annually to recognize outstanding achievements in military equipment and weapon systems maintenance.

The Robert T. Mason Depot Maintenance Excellence Award recipient is the Dedicated Design and Prototype Effort Team at the U.S. Marine Corps Maintenance Center, Albany, Ga. The team provided exceptional and responsive maintenance support to our warfighters by demonstrating the ability to be responsive, resourceful, agile, and creative by designing and prototyping multiple systems in support of Operation Iraqi Freedom.

The depot-level award is named in recognition of Robert T. Mason, a former assistant deputy under secretary of defense for maintenance policy, programs, and resources. Mason served as the champion of organic depot maintenance for three decades, while helping to transform DoD organic depot-level operations.

There are six field-level awards presented in the categories of large, medium, and small units (two each). The recipients of this year's Secretary of Defense Field-level Maintenance Awards are as follows: for the large category, the 1st Maintenance Battalion, Marine Corps Base, Camp Pendleton, Calif., and the 56th Maintenance Group at Luke Air Force Base, Ariz. Winners in the medium category include the Marine Aviation Logistics Squadron 16, Marine Corps Air Station. Miramar, Calif., and the 1st Aircraft Maintenance Squadron, Langley Air Force Base, Va. Small category winners include the Navy's Aircraft Intermediate Maintenance Detachment, Mayport, Fla., and Army's Charlie Company, 501st Military Intelligence Battalion, Wackernheim, Germany.

The awards will be presented to the winners at the Secretary of Defense Maintenance Awards banquet on Nov. 15, 2007, during the 2007 DoD Maintenance Symposium and Exhibition at the Rosen Shingle Creek Hotel in Orlando, Fla. Additional information regarding the 2007 DoD Maintenance Symposium and Exhibition can be found at < www.sae.org/dod >.

AIR FORCE PRINT NEWS (AUG. 9, 2007)
MODELING, SIMULATION EXPERT RECEIVES LIFETIME ACHIEVEMENT AWARD

Capt Ulric Adams Jr., USAF

WASHINGTON—Dr. Jacqueline R. Henningsen received the Air Force Modeling and Simulation Moody Suter Lifetime Achievement Award during a ceremony at the Pentagon Aug. 9. Henningsen is the director for studies and analyses, assessments and lessons learned. Secretary of the Air Force Michael W. Wynne made the presentation.

The award recognizes military and government leaders who significantly contributed to modeling and simulation throughout their career. Henningsen was recognized for 20 years of work in advancing modeling and simulation throughout the Air Force and DoD.

Among her notable accomplishments, during Desert Storm, as chief of assessments at then-Strategic Air Command headquarters, which became United States Strategic Command, Henningsen used M&S to evaluate and improve logistics processes to support the warfighter in theater.

In 1995, she was instrumental in establishing the Air Force Agency for Modeling and Simulation through then Air Force Chief of Staff Gen. Ronald Fogleman's Air Force 4-star M&S Summit.

Recently, Henningsen used modeling and simulation to provide the acquisition community with critical data on fielding and life cycle support during F-22 Raptor weapon system development.

"The Air Force is a Service with a heritage of leveraging technology to gain military operational advantage," said Henningsen in her remarks after being honored.

More specifically, she tied the value of M&S back to early Air Force history and the many benefits gained by partnering with the scientific and research and development communities from the 1940s to today.

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Henningsen is only the second person to ever receive this prestigious award. The award is named after the late Richard "Moody" Suter, a retired Air Force colonel who is considered the father of the Red Flag exercise, regarded by many as the premier air combat exercise in the world. His vision revolutionized combat training for Air Force aircrews and has been expanded to include Green, Blue, and Virtual Flag exercises.

Adams is with Air Force Agency for Modeling and Simulation.

DEFENSE ADVANCED RESEARCH PROJECTS AGENCY NEWS RELEASE (AUG. 9, 2007)
DARPA PRESENTS AWARDS FOR EXCELLENCE IN PERFORMANCE

Dr. Anthony J. Tether, director of the Defense Advanced Research Projects Agency (DARPA), presented the 2007 DARPA Awards for Excellence at DARPATech 2007 in Anaheim, Calif.

BAE Systems Advanced Technologies, Washington, D.C., received the award for Significant Technical Achievement for outstanding leadership and engineering innovation in the design, construction, and activation of the High-Frequency Active Auroral Research Program (HAARP) instrument in Gakona, Alaska. The HAARP instrument is critical to the understanding and prediction of space weather for satellite operations at low earth orbit and is invaluable as a ground-based test bed for applications requiring a flexible source of high frequency, extremely low frequency, and very low frequency radiation.

Phiar Corp., Boulder, Colo., received the Award for Small Business Innovation Research for their innovation excellence in creating a new electronic device technology that

Secretary of the Air Force Michael W. Wynne presents the Air Force Modeling and Simulation Moody Suter Lifetime Achievement Award to Dr. Jacqueline R. Henningsen, director for Air Force studies and analyses, assessments and lessons learned.
U.S. Air Force photograph by Sandra Guthrie

scientific expertise he and his team provided under the DARPA Surviving Blood Loss program. Roth and his team successfully demonstrated a hydrogen sulfide therapy involving the reversible reduction of a mammal's metabolic activity without long-term side effects. The results of this effort have led to technology that will dramatically improve the survival rate of wounded warfighters and provide revolutionary improvements in the prevention and control of other medical complications on the battlefield.

The Award for Sustained Excellence by a Government Agent was presented to selected Air Force Research Laboratory, Wright Patterson, Ohio, personnel for their support of DARPA's Tactical Targeting Network Technology (TTNT) and Quint Networking Technology (QNT) programs. Recognized AFRL staff were Dawn Ross, Capt. John Tate, John Woods, Mark Minges, and Lt. Michael Clark. TTNT is an Internet protocol-based, high-speed, dynamic, ad hoc data link network designed to enable tactical aircraft

enables affordable, low-power sensor and communication operations. Using new nanotechnology-based quantum tunneling principles, Phiar's technology offers a potential solution to the speed and power limitations of semiconductor-based devices. It also offers higher performance generated from existing mainstream manufacturing technologies.

Fiberstars, Solon, Ohio, received the Award for Small Business Innovation Research for developing innovative arc source multi-layer coatings that more than double lighting systems lifetime without affecting performance. Fiberstars developed the innovative technology as part of DARPA's High Efficiency Distributed Lighting program, which is aimed at improving survival, deployment, and maintenance levels of lighting systems for Navy ships. Fiberstars' technology lowers life cycle costs of lighting systems by extending the interval between lighting replacements. The savings realized are substantial and will improve productivity and efficiency in a variety of military efforts.

Dr. Miguel Nicolelis, Duke University, Durham, N.C., received the award for Sustained Excellence by a Performer for his work advancing the understanding of the relationship between the brain and motor control leading to innovative possibilities for thought-controlled prosthetic devices. His accomplishments provided scientists with techniques to decode the brain's motor signals with such fidelity that movements of a robotic arm can be achieved entirely by direct brain control. As a result of Dr. Nicolelis' efforts, DARPA initiated a program to create a fully functional prosthetic arm that will dramatically improve the quality of life for the men and women in uniform who were injured while serving our nation.

SRI International, Menlo Park, Calif., received the Award for Sustained Excellence by a Performer for leading a team that pioneered cognitive systems technologies in machine learning, machine reasoning, perception, man-machine dialogue, and cognitive system architectures. In support of this effort, SRI International developed the Personalized Assistant that Learns (PAL), the world's first integrated cognitive assistant that learns on the job and adapts on its own. The PAL team's work provides a template for further development of robust, adaptive intelligent systems in a wide range of military and commercial settings.

The Award for Significant Technical Achievement was presented to Dr. Mark Roth, of the Fred Hutchinson Cancer Research Center, Seattle, Wash., for the leadership and

to quickly target moving and time-critical targets. QNT is a modular network data link program focused on providing a multiband modular capability. These dedicated Air Force personnel helped develop advanced technologies that dramatically improved airborne networking among tactical aircraft, ground control nodes, and the Global Information Grid. As a result of the team's efforts, the Joint Forces will have enhanced network-centric capabilities for combat situational awareness and engagement of fleeting targets with minimal risk of collateral damage.

The Award for Sustained Excellence by a Government Agent was also presented to selected members of the U.S. Marine Corps Wasp Micro Air Vehicle Flyaway Cell team of the Marine Corps Warfighting Laboratory, Quantico, Va. Recognized team members included Sgt. Aaron W. Smith, Gunnery Sgt. Tyrone Butler, Maj. Jeffrey M. Dunn, and Maj. Tiley R. Nunnink.

This team conceived, developed, and implemented the training and logistical support for a Marine Corps battalion to conduct a comprehensive evaluation of Wasp in actual combat operations. Wasp is a DARPA experimental prototype air vehicle weighing less than one pound and equipped with global positioning system navigation and a color camera. It is designed for front-line reconnaissance and surveillance over land and sea.

Media point of contact is Jan Walker at jan.walker@darpa.mil.

AIR FORCE PRINT NEWS (AUG. 7, 2007)
CENTER DELIVERS NEW ACCOUNTING, MANAGEMENT SYSTEM

HANSCOM AIR FORCE BASE, Mass.—A state-of-the-art financial management system that serves the Air Force and U.S. Transportation Command came to fruition last month when the Defense Enterprise Accounting and Management System Increment 1, Spiral 1 was successfully fielded at Scott Air Force Base, Ill.

The DEAMS program, a vision four years in the making, was developed by members of the 554th Electronic Systems Group located at Wright-Patterson AFB, Ohio, with its parent organization, the 554th Electronic Systems Wing, headquartered at Hanscom AFB.

DEAMS Spiral 1 provides an accounting and finance capability to TRANSCOM and Air Mobility Command users at Scott AFB, and completes the initial phase of the DEAMS technology demonstration.

Based on ORACLE e-business commercial software, DEAMS provides the primary financial system with automated audit trails to TRANSCOM in support of the warfighter. DEAMS will replace several antiquated systems, considerably reducing the time to process and track financial transactions.

"This marks a significant step toward transitioning from accounting and financial management legacy systems to a more efficient, enterprise-wide commercial-off-the-shelf-based solution," said Lt. Gen. Charles L. Johnson II, the ESC commander.

Further, Spiral 1 was delivered on time and on cost, said Frank Weber, the 554th ELSW director.

"The DEAMS Spiral 1 deployment represents a milestone in fielding warfighting capabilities using ORACLE's commercial-off-the-shelf Enterprise Resource Program, 11i e-Business Suite," Weber said. "The commercial software approach couples defense and industry best practices for improved financial management processes, reduces acquisition costs, and provides improved operations and maintenance over a dedicated software development effort."

The achievement was made possible through a collaboration of TRANSCOM officials, Secretary of the Air Force financial management members, Defense Financial and Accounting Service financial experts, and Air Force Materiel Command acquisition professionals whose talent and dedication made this initial deployment a success, Weber said.

"We are very excited to have reached this important milestone, and are equally excited to mature this new capability," said Alan Bentley, director of TRANSCOM Program Analysis and Financial Management.

Subsequent spirals in Increment 1 will provide increased financial management capabilities across TRANSCOM, AMC, Military Sealift Command, and Surface Deployment and Distribution Command. These capabilities plan to be delivered by 2010.

DEAMS Increment 2, still in the requirements identification and acquisition development phases, will deliver financial management capabilities throughout the Air Force.

ROCK ISLAND ARSENAL–JOINT TECHNOLOGY & MANUFACTURING CENTER RECEIVES ARMY SUPERIOR UNIT AWARD (JULY 31, 2007)

Galen Putnam

ROCK ISLAND ARSENAL, Ill.—The Rock Island Arsenal Joint Technology and Manufacturing Center received the Army Superior Unit Award at an awards ceremony presided over by Gen. Benjamin S. Griffin, U.S. Army Materiel Command commanding general.

The Army Superior Unit Award is one of the Army's highest unit-level honors. The award is bestowed upon units that exhibit outstanding meritorious performance while executing a difficult and challenging mission under extraordinary circumstances in a geographical area in which combat awards are not authorized.

The unit must display such outstanding devotion and superior performance of exceptionally difficult tasks that it sets itself apart from and above other units with similar missions.

"The Army Superior Unit Award is the most prestigious non-combat zone award the Army can bestow on an organization," Griffin said after reciting a litany of RIA-JMTC accomplishments and commending the workforce.

"The [RIA-JMTC] flag will forever carry this streamer. One hundred years from now that streamer will still be there, and people will be reminded of your accomplishments."

The award takes on an added significance considering the organization has never received a Department of the Army-level unit award, despite continued service since the Civil War.

"This award highlights the fact that proximity to the battlefield does not predicate the importance an organization plays in support of those fighting on the front lines," said Col. Bruce Elliott, RIA-JMTC commander, who accepted the award from Griffin.

"Having been firmly planted here since 1862, the Rock Island Arsenal Joint Manufacturing and Technology Center is not designed to pack up and deploy to the fight like frontline Army units; rather, our one-of-a-kind manufacturing facility supports our military forces worldwide from our humble home right here in the heart of America—every day."

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Elliott emphasized the important role his civilian "soldiers" play.

"This award recognizes the hard work, ingenuity, and overall dedication of our highly skilled workforce. It is to all of you this award is truly dedicated," he said.

In the citation, the RIA-JMTC was lauded for outstanding meritorious service in support of the Global War on Terrorism.

"Every aspect of the center's core expertise was applied to the achievement of its success in the production of army, artillery, small arms, and mobile maintenance platforms that supported the U.S. warfighters. The U.S. Army Rock Island Arsenal-JMTC's demonstrated commitment and performance of duty reflects great credit upon the center and the United States Army."

The RIA-JMTC is one of the Army's most unique entities. It is the only vertically integrated metal manufacturing facility in the Department of Defense and is the Army's only remaining foundry.

It is also the Army's only Shingo Gold Prize Award Winner for Excellence in Manufacturing. The Shingo Gold Prize is considered the "Nobel Prize" of manufacturing.

Perhaps the most unique aspect of the RIA-JMTC is its personnel—one soldier, Elliott, and more than 1,200 civilian employees.

Putnam writes for Rock Island Arsenal-Joint Technology and Manufacturing Center Public Affairs.

AT&L Workforce—Key Leadership Changes

FLAG OFFICER ASSIGNMENTS

Chief of Naval Operations Adm. Mike Mullen announced the following flag officer assignments:

Rear Adm. (lower half) Walter M. Skinner is being assigned as program executive officer for tactical aircraft programs, Office of the Assistant Secretary of the Navy (Research, Development and Acquisition), Patuxent River, Md. Skinner is currently serving as commander, Naval Air Warfare Center, weapons division, China Lake, Calif.

Rear Adm. (lower half) (selectee) David A. Dunaway is being assigned as commander, Naval Air Warfare Center, weapons division, China Lake, Calif. Dunaway is currently serving as deputy program executive officer for air anti-submarine warfare, assault and special mission programs, Office of the Assistant Secretary of the Navy (Research, Development and Acquisition), Patuxent River, Md.

GENERAL OFFICER ASSIGNMENTS

The chief of staff, Army announces the assignment of the following officers:

Brig. Gen. Mark A. Bellini, commanding general, U.S. Army Quartermaster Center and School/deputy commanding general, Fort Lee, Fort Lee, Va., to deputy chief of staff, G-4, U.S. Army Europe and Seventh Army, Germany.

Brig. Gen. Jesse R. Cross, commander, Defense Supply Center Philadelphia, Defense Logistics Agency, Philadelphia, Pa., to commanding general, U.S. Army Quartermaster Center and School/deputy commanding general, Fort Lee, Fort Lee, Va.

PROMOTION, ASSIGNMENTS PENDING FOR SENIOR LEADERS

WRIGHT-PATTERSON AIR FORCE BASE, Ohio —Five generals within Air Force Materiel Command are among senior officers who will be on the move, according to an Aug. 2 senior leader announcement memorandum.

President Bush has nominated Maj. Gen. Ted Bowlds to the Senate for appointment to the grade of lieutenant general with an assignment to become the Electronic Systems Center commander at Hanscom AFB, Mass. Bowlds currently is the Air Force Research Laboratory commander, which is headquartered at Wright-Patterson. He will succeed the current ESC commander, Lt. Gen. Charles Johnson II, who will retire.

Assignments are pending for three AFMC generals.

- Maj. Gen. Curtis Bedke is scheduled to become the AFRL commander. Bedke currently is the Air Force Flight Test Center commander at Edwards AFB, Calif.
- Brig. Gen. David Eichhorn is scheduled to become the Air Force Flight Test Center (AFFTC) commander. Eichhorn currently is the Air, Space and Information Operations director at Headquarters AFMC.
- Brig. Gen. Joseph Lanni is scheduled to become the Air, Space and Information Operations director. Lanni currently is the Air Armament Center vice commander at Eglin AFB, Fla.

FLAG OFFICER ASSIGNMENT

Chief of Naval Operations Adm. Mike Mullen announced today the following assignment:

Rear Adm. (lower half) (selectee) Michael E. McMahon is being assigned as program executive officer for aircraft carriers, Office of the Assistant Secretary of the Navy (Research, Development and Acquisition), Washington, D.C. McMahon is currently serving as supervisor of shipbuilding, conversion, and repair, Newport News, Va.

GENERAL OFFICER ASSIGNMENT

The chief of staff, Air Force announces the assignment of the following general officer:

Brig. Gen. (select) Wendy M. Masiello from associate deputy assistant secretary, contracting, Office of the Secretary of the Air Force for Acquisition, Pentagon, Washington D.C., to program executive officer for combat and mission support programs, Office of the Assistant Secretary of the Air Force for Acquisition, Pentagon, Washington D.C.

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AT&L Workforce—Key Leadership Changes

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DEPARTMENT OF DEFENSE NEWS RELEASE (AUG. 20, 2007)
FLAG OFFICER ANNOUNCEMENT

Secretary of Defense Robert M. Gates announced today that the President has nominated Capt. Lawrence S. Rice for appointment to the grade of rear admiral (lower half). Rice is currently serving as special assistant to the deputy chief of naval operations for fleet readiness and logistics, N4, Office of the Chief of Naval Operations, Washington, D.C.

DEPARTMENT OF DEFENSE NEWS RELEASE (AUG. 22, 2007)
GENERAL OFFICER ASSIGNMENT

The Army chief of staff announces the assignment of the following officer:

Brigadier General Robert D. Ogg Jr., deputy program manager, future combat system, brigade combat team (network/complementary programs), Warren, Mich. to deputy program manager, future combat system, brigade combat team (platform), Warren, Mich.

DEPARTMENT OF DEFENSE NEWS RELEASE (AUG. 24, 2007)
DEFENSE DEPARTMENT SENIOR EXECUTIVE SERVICE ANNOUNCEMENT

Secretary of Defense Robert M. Gates announced the following Department of Defense Senior Executive Service appointment: Joshua T. Hartman appointed to senior advisor to the under secretary of defense (acquisition, technology and logistics), Office of the Secretary of Defense, Washington, D.C.

DEPARTMENT OF DEFENSE NEWS RELEASE (AUG. 29, 2007)
FLAG OFFICER ASSIGNMENTS

Chief of Naval Operations Adm. Mike Mullen announced the following flag officer assignments:

Rear Adm (lower half) William E. Shannon III is being assigned as vice commander, Naval Air Systems Command, Patuxent River, Md. Shannon is currently assigned as assistant commander for logistics and industrial operations, Naval Air Systems Command, Patuxent River, Md.

Rear Adm (lower half) Michael D. Hardee, commander, Navy Fleet Readiness Centers, Naval Air Systems Command, Patuxent River, Md., will assume the additional duties of assistant commander for logistics and industrial operations, Naval Air Systems Command, Patuxent River, Md.

DEPARTMENT OF DEFENSE NEWS RELEASE (AUG. 31, 2007)
GENERAL OFFICER ASSIGNMENTS

The chief of staff, Air Force announces the assignments of the following general officers:

Brig. Gen. David B. Warner, director, command and control programs, Defense Information Systems Agency, Arlington, Va., to director, logistics and warfighting integration, and chief information officer, Headquarters Air Force Space Command, Peterson Air Force Base, Colo.

Maj. Gen. Robert H. McMahon, director, logistics, Headquarters Air Mobility Command, Scott Air Force Base, Ill., to director, maintenance, deputy chief of staff for logistics, installations and mission support, Headquarters U.S. Air Force, Washington, D.C.

Brig. Gen. Kenneth D. Merchant, vice commander, Ogden Air Logistics Center, Air Force Materiel Command, Hill Air Force Base, Utah, to director, logistics, Headquarters Air Mobility Command, Scott Air Fore Base, Ill.

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- Get promoted or rewarded.

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If you're interested in having longer, scholarly articles considered for publication in the *Defense Acquisition Review Journal*, or if you're a subject matter expert and would be willing to referee articles, contact the managing editor at **defensearj(at)dau.mil**. Be sure to check the guidelines for authors at < **www.dau.mil/pubs/arq/arqtoc.asp** > .

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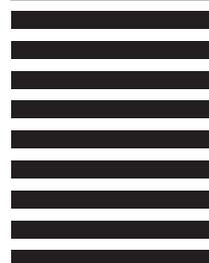
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An Internet Listing Tailored to the Professional Acquisition Workforce

Surfing the Net

Acquisition Central
http://acquisition.gov
Shared systems and tools to help the federal acquisition community and the government's business partners conduct business efficiently.

Acquisition Community Connection (ACC)
http://acc.dau.mil
Policies, procedures, tools, references, publications, Web links, and lessons learned for risk management, contracting, system engineering, total ownership cost.

Aging Systems Sustainment and Enabling Technologies (ASSET)
http://asset.okstate.edu/asset/index.htm
A government-academic-industry partnership. ASSET program-developed technologies and processes increase the DoD supply base, reduce time and cost associated with parts procurement, and enhance military readiness.

Air Force (Acquisition)
www.safaq.hq.af.mil
Policy; career development and training opportunities; reducing TOC; library; links.

Air Force Institute of Technology
www.afit.edu
Graduate degree programs and certificates in engineering and management; Civilian Institution; Center for Systems Engineering; Centers of Excellence; distance learning.

Air Force Materiel Command (AFMC) Contracting Laboratory's FAR Site
http://farsite.hill.af.mil
FAR search tool; Commerce Business Daily announcements (CBDNet); Federal Register; electronic forms library.

Army Acquisition Support Center
http://asc.army.mil
News; policy; *Army AL&T* Magazine; programs; career information; events; training opportunities.

Assistant Secretary of the Army (Acquisition, Logistics & Technology)
https://webportal.saalt.army.mil
ACAT Listing; ASA(ALT) Bulletin; digital documents library; ASA(ALT) organization; links to other Army acquisition sites.

Association for the Advancement of Cost Engineering International (AACE)
www.aacei.org
Promotes planning and management of cost and schedules; online technical library; bookstore; technical development; distance learning; etc.

Association of Old Crows (AOC)
www.crows.org
News; conventions, courses; *Journal of Electronic Defense*.

Association of Procurement Technical Assistance Centers (APTAC)
www.aptac-us.org
PTACs nationwide assist businesses with government contracting issues.

Central Contractor Registry
http://www.ccr.gov/
Registration for businesses wishing to do business with the federal government under a FAR-based contract .

Committee for Purchase from People Who are Blind or Severely Disabled
www.abilityone.gov
Information and guidance to federal customers on the requirements of the Javits-Wagner-O'Day (JWOD) Act.

Defense Acquisition University (DAU) and Defense Systems Management College (DSMO)
www.dau.mil
DAU Course Catalog; *Defense AT&L* magazine and *Defense Acquisition Review Journal*; DAU/DSMC course schedules; educational resources.

DAU Alumni Association
www.dauaa.org
Acquisition tools and resources; government and related links; career opportunities; member forums.

DAU Distance Learning Courses
www.dau.mil/registrar/enroll.asp
DAU online courses.

Defense Advanced Research Projects Agency (DARPA)
www.darpa.mil
News releases; current solicitations; "Doing Business with DARPA."

Defense Business Transformation Agency (BTA)
www.acq.osd.mil/scst/index.htm
Policy; newsletters; Central Contractor Registration (CCR); assistance centers; DoD EC partners.

Defense Information Systems Agency (DISA)
www.disa.mil
Structure and mission of DISA; Defense Information System Network; Defense Message System; Global Command and Control System.

Defense Modeling and Simulation Office (DMSO)
www.dmso.mil
DoD Modeling and Simulation Master Plan; document library; events; services.

Defense Technical Information Center (DTIC)
www.dtic.mil/
DTIC's scientific and technical information network (STINET) is one of DoD's largest available repositories of scientific, research, and engineering information. Hosts over 100 DoD Web sites.

Director, Defense Procurement and Acquisition Policy (DPAP)
www.acq.osd.mil/dpap
Procurement and acquisition policy news and events; reference library; DPAP organizational breakout; acquisition education and training policy, guidance.

DoD Defense Standardization Program
www.dsp.dla.mil
DoD standardization; points of contact; FAQs; military specifications and standards reform; newsletters; training; nongovernment standards; links.

DoD Enterprise Software Initiative (ESI)
www.esi.mil
Joint project to implement true software enterprise management process within DoD.

DoD Inspector General Publications
www.dodig.osd.mil/pubs/
Audit and evaluation reports; IG testimony; planned and ongoing audit projects of interest to the AT&L community.

DoD Office of Technology Transition
www.acq.osd.mil/ott
Information about and links to OTT's programs.

DoD Systems Engineering
www.acq.osd.mil/se
IPolicies, guides and other information on SE and related topics, including developmental T&E and acquisition program support.

Earned Value Management
www.acq.osd.mil/pm
Implementation of earned value management; latest policy changes; standards; international developments.

Electronic Industries Alliance (EIA)
www.eia.org
Government relations department; links to issues councils; market research assistance.

Federal Acquisition Institute (FAI)
https://www.atrrs.army.mil/channels/faitas
Virtual campus for learning opportunities; information access and performance support.

Federal Acquisition Jumpstation
http://prod.nais.nasa.gov/pub/fedproc/home.htm
Procurement and acquisition servers by contracting activity; CBDNet; reference library.

Federal Aviation Administration (FAA)
www.asu.faa.gov
Online policy and guidance for all aspects of the acquisition process.

Federal Business Opportunities
www.fedbizopps.gov
FedBizOpps.gov is the single government point-of-entry for federal government procurement opportunities over $25,000.

Federal R&D Project Summaries
www.osti.gov/fedrnd/about
Portal to information on federal research projects; search databases at different agencies.

Federal Research in Progress (FEDRIP)
http://grc.ntis.gov/fedrip.htm
Information on federally funded projects in the physical sciences, engineering, life sciences.

Fedworld Information
www.fedworld.gov
Comprehensive central access point for searching, locating, ordering, and acquiring government and business information.

Government Accountability Office (GAO)
http://.gao.gov
GAO reports;policy and guidance; FAQs.

General Services Administration (GSA)
www.gsa.gov
Online shopping for commercial items to support government interests.

Government-Industry Data Exchange Program (GIDEP)
www.gidep.org
Federally funded co-op of government-industry participants, providing electronic forum to exchange technical information essential to research, design, development, production, and operational phases of the life cycle of systems, facilities, and equipment.

GOV.Research_Center
http://grc.ntis.gov
U.S. Dept. of Commerce, National Technical Information Service (NTIS), and National Information Services Corporation (NISC) joint venture single-point access to government information.

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Surfing the Net

Integrated Dual-Use Commercial Companies (IDCC)
www.idcc.org
Information for technology-rich commercial companies on doing business with the federal government.

International Society of Logistics
www.sole.org
Online desk references that link to logistics problem-solving advice; Certified Professional Logistician certification.

International Test & Evaluation Association (ITEA)
www.itea.org
Professional association to further development and application of T&E policy and techniques to assess effectiveness, reliability, and safety of new and existing systems and products.

Joint Capability Technology Demonstrations (JCTD)
www.acq.osd.mil/jctd
JCTD's accomplishments, articles, speeches, guidelines, and POCs.

U.S. Joint Forces Command
www.jfcom.mil
A "transformation laboratory" that develops and tests future concepts for warfighting.

Joint Fires Integration and Interoperability Team
https://jfiit.eglin.af.mil
USJFCOM lead agency to investigate, assess, and improve integration, interoperability, and operational effectiveness of Joint Fires and Combat Identification across the Joint warfighting spectrum. (Accessible from .gov and .mil domains only.)

Joint Interoperability Test Command (JITC)
http://jitc.fhu.disa.mil
Policies and procedures for interoperability certification; lessons learned; support.

Joint Spectrum Center (JSC)
www.jsc.mil
Provides operational spectrum management support to the Joint Staff and COCOMs and conducts R&D into spectrum-efficient technologies.

Library of Congress
www.loc.gov
Research services; Congress at Work; Copyright Office; FAQs.

MANPRINT (Manpower and Personnel Integration)
www.manprint.army.mil
Points of contact for program managers; relevant regulations; policy letters from the Army Acquisition Executive; briefings on the MANPRINT program.

National Aeronautics and Space Administration (NASA)'s Commercial Technology Office (CTO)
http://technology.grc.nasa.gov
Promotes competitiveness of U.S. industry through commercial use of NASA technologies and expertise.

National Contract Management Association (NCMA)
www.ncmahq.org
"What's New in Contracting?"; educational products catalog; career center.

National Defense Industrial Association (NDIA)
www.ndia.org
Association news; events; government policy; National Defense magazine.

National Geospatial-Intelligence Agency
www.nima.mil
Imagery; maps and geodata; Freedom of Information Act resources; publications.

National Institute of Standards and Technology (NIST)
www.nist.gov
Information about NIST technology, measurements, and standards programs, products, and services.

National Technical Information Service (NTIS)
www.ntis.gov
Online service for purchasing technical reports, computer products, videotapes, audiocassettes.

Naval Sea Systems Command
www.navsea.navy.mil
Total Ownership Cost (TOC); documentation and policy; reduction plan; implementation timeline; TOC reporting templates; FAQs.

Navy Acquisition and Business Management
www.abm.rda.hq.navy.mil
Policy documents; training opportunities; guides on risk management, acquisition environmental issues, past performance; news and assistance for the Standardized Procurement System (SPS) community; notices of upcoming events.

Navy Acquisition, Research and Development Information Center
www.onr.navy.mil/sci_tech
News and announcements; acronyms; publications and regulations; technical reports; doing business with the Navy.

Navy Best Manufacturing Practices Center of Excellence
www.bmpcoe.org
National resource to identify and share best manufacturing and business practices in use throughout industry, government, academia.

Naval Air Systems Command (NAVAIR)
www.navair.navy.mil
Provides advanced warfare technology through the efforts of a seamless, integrated, worldwide network of aviation technology experts.

Office of Force Transformation
www.oft.osd.mil
News on transformation policies, programs, and projects throughout the DoD and the Services.

Open Systems Joint Task Force
www.acq.osd.mil/osjtf
Open Systems education and training opportunities; studies and assessments; projects, initiatives and plans; reference library.

Parts Standardization and Management Committee (PSMC)
www.dscc.dla.mil/programs/psmc
Collaborative effort between government and industry for parts management and standardization through commonality of parts and processes.

Performance-based Logistics Toolkit
https://acc.dau.mil/pbltoolkit
Web-based 12-step process model for development, implementation, and management of PBL strategies.

Project Management Institute
www.pmi.org
Program management publications; information resources; professional practices; career certification.

Small Business Administration (SBA)
www.sba.gov
Communications network for small businesses.

DoD Office of Small Business Programs
www.acq.osd.mil/osbp
Program and process information; current solicitations; Help Desk information.

Software Program Managers Network
www.spmn.com
Supports project managers, software practitioners, and government contractors. Contains publications on highly effective software development best practices.

Space and Naval Warfare Systems Command (SPAWAR)
https://e-commerce.spawar.navy.mil
SPAWAR business opportunities; acquisition news; solicitations; small business information.

System of Systems Engineering Center of Excellence (SoSECE)
www.sosece.org
Advances the development, evolution, practice, and application of the system of systems engineering discipline across individual and enterprise-wide systems.

Under Secretary of Defense for Acquisition, Technology and Logistics (USD(AT&L))
www.acq.osd.mil
USD(AT&L) documents; streaming videos; links.

USD(AT&L) Knowledge Sharing System (formerly Defense Acquisition Deskbook)
http://akss.dau.mil
Automated acquisition reference tool covering mandatory and discretionary practices.

U.S. Coast Guard
www.uscg.mil
News and current events; services; points of contact; FAQs.

U.S. Department of Transportation Maritime Administration
www.marad.dot.gov
Information and guidance on the requirements for shipping cargo on U.S. flag vessels.

Links current at press time. To add a non-commercial defense acquisition/acquisition and logistics-related Web site to this list, or to update your current listing, please fax your request to *Defense AT&L*, 703-805-2917 or e-mail datl(at)dau.mil. Your description may be edited and/or shortened. DAU encourages the reciprocal linking of its home page to other interested agencies. Contact: webmaster(at)dau.mil.

Defense AT&L Writer's Guidelines in Brief

Purpose

The purpose of *Defense AT&L* magazine is to instruct members of the DoD acquisition, technology & logistics (AT&L) workforce and defense industry on policies, trends, legislation, senior leadership changes, events, and current thinking affecting program management and defense systems acquisition, and to disseminate other information pertinent to the professional development and education of the DoD Acquisition Workforce.

Subject Matter

We do print feature stories that include real people and events. Stories that appeal to our readers—who are senior military personnel, civilians, and defense industry professionals in the program management/acquisition business—are those taken from real-world experiences vs. pages of researched information. **We don't print** academic papers, fact sheets, technical papers, or white papers. We don't use endnotes or references in our articles. Manuscripts meeting these criteria are more suited for DAU's journal, *Defense Acquisition Review*.

Defense AT&L reserves the right to edit manuscripts for clarity, style, and length. Edited copy is cleared with the author before publication.

Length

Articles should be 1,500 – 2,500 words.

Author bio

Include a brief biographical sketch of the author(s)—about 25 words—including current position and educational background. We do not use author photographs.

Style

Good writing sounds like comfortable conversation. Write naturally; avoid heavy use of passive voice. Except for a rare change of pace, most sentences should be 25 words or less, and paragraphs should be six sentences. Avoid excessive use of capital letters and acronyms. Define *all* acronyms used. Consult "Tips for Authors" at <www.dau.mil/pubs/damtoc.asp>. Click on "Submit an Article to *Defense AT&L.*"

Presentation

Manuscripts should be submitted as Microsoft Word files. Please use Times Roman or Courier 11 or 12 point. Double space your manuscript and do not use fancy fonts, columns, or any formatting other than bold, italics, and bullets. *Do not embed or import graphics into the document file*; they must be sent as separate files.

Graphics

We use figures, charts, and photographs (black and white or color). Photocopies of photographs are not acceptable. Include brief numbered captions keyed to the figures and photographs. Include the source of the photograph. We publish no photographs or graphics from outside the DoD without written permission from the copyright owner. We do not guarantee the return of original photographs.

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Issue	Author Deadline
July-August	1 October
March-April	1 December
May-June	1 February
July-August	1 April
September-October	1 June
November-December	1 August

If the magazine fills before the author deadline, submissions are considered for the following issue.

Submission Procedures

Submit articles by e-mail to datl(at)dau.mil or on disk to: DAU Press, ATTN: Judith Greig, 9820 Belvoir Rd., Suite 3, Fort Belvoir VA 22060-5565. Submissions must include the author's name, mailing address, office phone number (DSN and commercial), e-mail address, and fax number.

Receipt of your submission will be acknowledged in five working days. You will be notified of our publication decision in two to three weeks.

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