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Not Your Father's AMC

Defense AT&L interviews

Lt. Gen. James H. Pillsbury

Deputy Commanding General
U.S. Army Materiel Command

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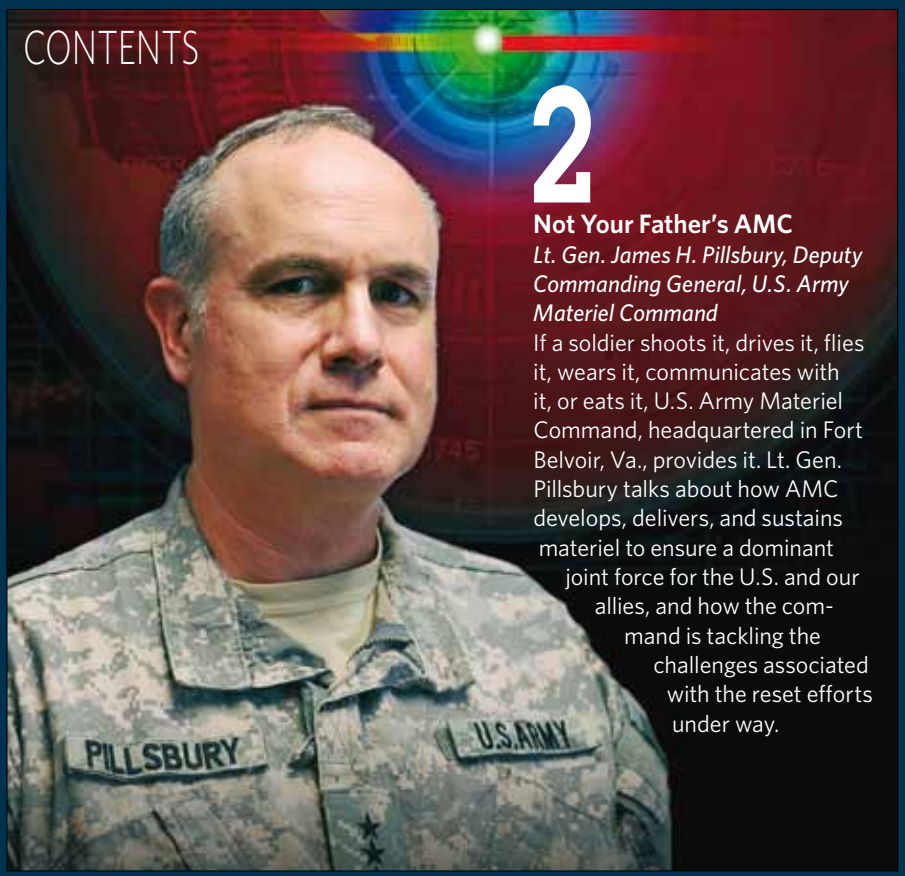

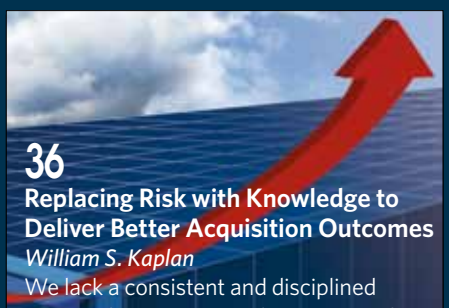

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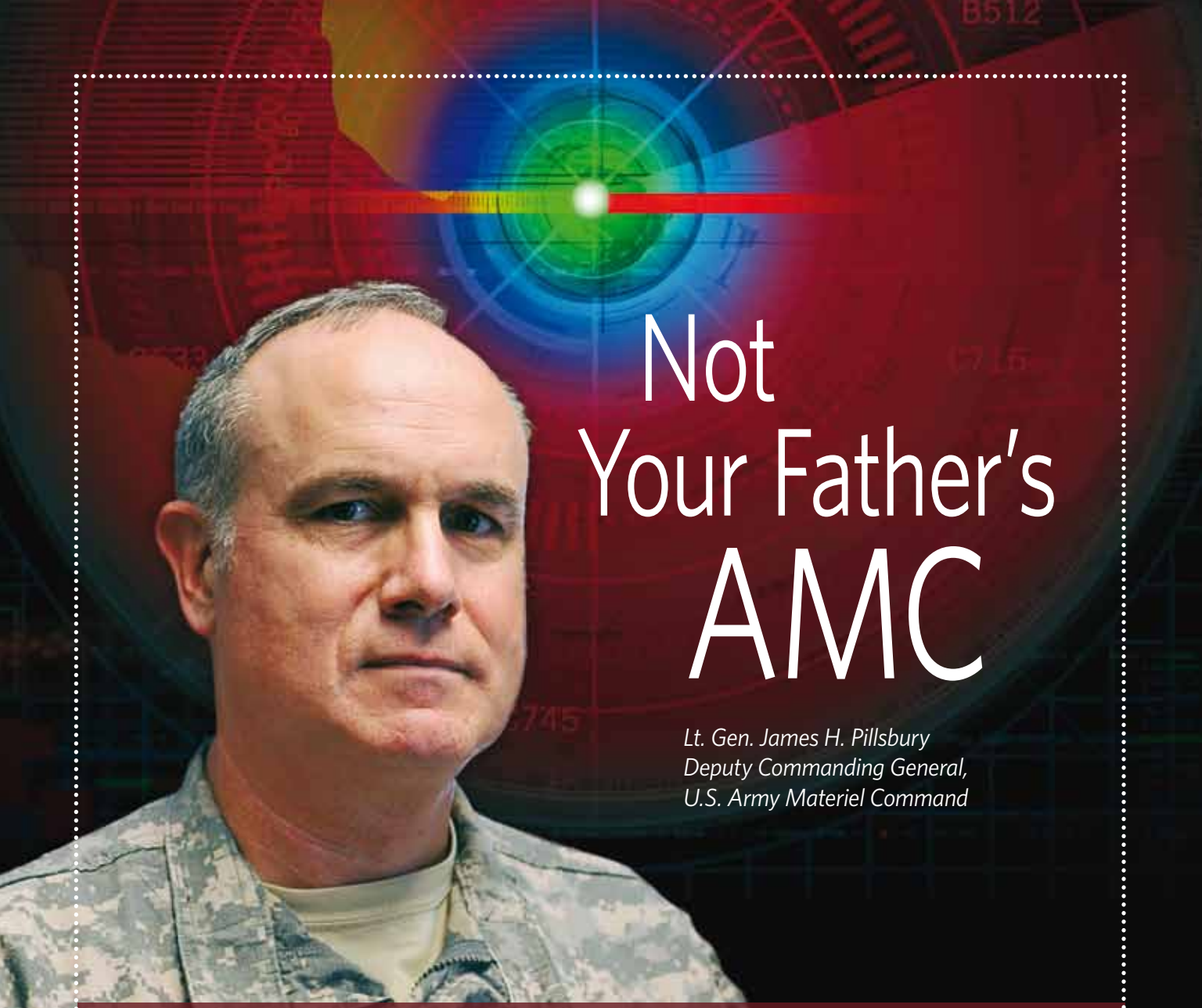

Not Your Father's AMC

Lt. Gen. James H. Pillsbury
Deputy Commanding General,
U.S. Army Materiel Command

Headquartered in Fort Belvoir, Va., U.S. Army Materiel Command has a presence in 49 states and 127 countries worldwide. Manning these organizations is a workforce of more than 67,000 dedicated military and civilian employees, many with highly developed specialties in weapons development, manufacturing, and logistics. AMC develops, delivers, and sustains materiel to ensure a dominant joint force for the U.S. and our allies. In layman's terms, "if a soldier shoots it, drives it, flies it, wears it, communicates with it, or eats it, AMC provides it."

Photographs by Erica Kobren

Army Lt. Gen. James H. Pillsbury assumed the duties as AMC's deputy commanding general on Dec. 8, 2008. Retired Army colonel Jim Oman, director of the DAU Senior Service College Fellowship Program and former commander, Army Forces Central Command-Saudi Arabia, met with Pillsbury in July to talk about how transformation has affected AMC, and how the command is tackling the challenges associated with the massive reset efforts under way. The Army has aggressively reset and repaired more than 500,000 pieces of equipment in our industrial base over the last six years, a workload three times greater than during the Vietnam War. In 2009 alone, AMC reset 180,000 pieces of equipment, including more than 400 aircraft, 2,700 tracked vehicles, and 150,000 weapons. As Pillsbury likes to remind people, the transformed AMC is "not your father's AMC."

Q

You currently serve as the deputy commander of the organization that serves as the Army's premier provider of materiel readiness—everything from technology, acquisition, support, materiel development, logistics power projection, and sustainment. Can you please give us an overview of AMC and how the command has changed to better meet the needs of the warfighter?

A

This is not your father's AMC. It certainly was in the 70s, 80s, and 90s, when the Army was churning in the post-Vietnam era. AMC was a huge organization then, upwards of 220,000 to 240,000 people, mostly civilians. It's now down to a little more than 67,000, mostly civilians and about 1,300 military. It's an organization that spans tactical, operational, and strategic logistics and everything that is covered in those three areas. The transformation of AMC has been rapid in the last eight or nine years, primarily because of the war.

When Gen. [*Paul J.*] Kern was in command of AMC, [*October 2001 to November 2004*], he started creating organizations that have become known as Army field support brigades or AFSBs. The brigade commander is really our face to the tactical commander. There are seven 0-6—full colonel—commands worldwide: two in each theater, one in Afghanistan, and one in Iraq; three in CONUS [*continental United States*]; one in Korea; and one in Germany. They are able to reach back into the wholesale logistics world and bring to bear the wholesale logistics to a tactical or operational requirement.

Something that has happened very recently, just a few years ago, as a result of the Gansler Commission [*the 2007 Gansler Commission Report, "The Commission on Army Acquisition and Program Management in Expeditionary Operations"*] is the stand up of the Army Contracting Command. As a result, the Army Contracting Command has seven contracting support brigades worldwide, similar geographically to the Army field support brigades. They are doing the contracting oversight for the combatant commanders—a huge investment of time and talent.

We have also taken into the fold, in a direct relationship, the Military Surface Deployment and Distribution Command, which is the Army service component command of U.S. Transportation Command; and again their brigades are throughout the world.

On top of those organizations is the Army Sustainment Command, a two-star command out of Rock Island Arsenal, Ill., that has control of the field support brigades I mentioned before. That command is the U.S. Army Division Support Command, the primary support command under the Army's old divisional structure. As you were growing up, we had the support commands—we had the division or the corps. We've lost that capability. And so the management of materiel and the equipping are now centered in Rock Island. On top of those commands are our functional commands: our Aviation and Missile Life Cycle Management Command, TACOM Life Cycle Management Command, CECOM Life Cycle Management Command, Joint Munitions Command; then tying the technology together is the Research, Development and Engineering Command in Aberdeen, Md.

We have a dotted line to the chemical munitions agencies. They are destroying all the chemical stockpiles by treaty, and they are on track. We have several other smaller agencies, such as the Logistics Support Agency down in Hunstville, Ala. On Tuesdays, we have a worldwide video teleconference, where the 0-6 commanders brief us on what is going on in their footprint. We have people from Mongolia to the Democratic Republic of Congo to people in theater. It's a breathtaking organization and it is only going to get better with time.

Q

I had the opportunity a while ago to sit in on one of the video teleconferences and it was enlightening. I had no idea that the support structure—the exoskeleton—was out there performing the various functions. It was, as you said, breathtaking to see the breadth of all the various commands out there. From what I can tell, it certainly makes a huge difference in responsiveness, in getting the capabilities rapidly out to the warfighter.

A

I am going to take it one step further. Within this transformation is an ongoing initiative, agreed to by the IMCOM [*U.S. Army Installation Management Command*] commander, Lt. Gen. [*Rick*] Lynch, and the AMC commanding general, Gen. Ann E. Dunwoody, in that the DOLs—directorates of logistics—at posts, camps, or stations will now become part of AMC. From above the motor pool to the depot, maintenance operations—our core competency—will be managed by AMC.

Q
Why has the Army transitioned to an enterprise management approach, and what is AMC's role in the Army's materiel enterprise?

A
You know, the leadership of our Army, both military and civilian—Army Chief of Staff Gen. George W. Casey, Secretary of the Army John McHugh, Vice Chief of Staff of the Army Peter W. Chiarelli, and the Under Secretary of the Army Joseph W. Westphal—are trying hard to bring a businesslike atmosphere to the Army. It is a huge business. The chief, the previous secretary of the Army [*Pete Geren*] and the current secretary agreed to go down a path of core enterprises. There is a Readiness Core Enterprise that is headed by Forces Command, who are the customer. We are the ones who are going to provide them the necessary assets so that they can get forces trained and ready for combatant commanders.

There is the Human Capital Core Enterprise, jointly operated by U.S. Army Training and Doctrine Command and M&RA [*Assistant Secretary of the Army for Manpower and Reserve Affairs*], and the Services and Infrastructure Core Enterprise, obviously IMCOM and ACSIM [*Army Assistant Chief of Staff for Installation Management*] respectively—and there is the Materiel Enterprise, that Dr. Malcolm O'Neill [*Assistant Secretary of the Army (AT&L)*] and Gen. Dunwoody are steering.

So what are we trying to do? We are trying to bring under one umbrella the entire lifecycle of the weapons system—the Blackhawk helicopter, for example—from the time that first UH-60 was in testing until the time we get rid of it, whenever that is. At present the entire lifecycle is owned in several areas. So from cradle to grave, let's get together with the acquisition and the sustainment communities and manage the lifecycle. That's what both Gen. Dunwoody and Dr. O'Neill are trying to get at. It's a culture change, and there are some clashes, some rice bowls that are going to be shattered; but the bottom line is that we are trying to do the right thing by the taxpayer and the warfighter.

Q
You talked a little bit about the culture. Do you have challenges with the various branches that have the ownership, if you will, of the various weapons systems?

A
Not so much that. What has happened is that in the early part of the war, because we weren't as flexible as we needed to be after 9/11, the Pentagon absorbed the execution of several functions. What the chief wants to do is divorce the execution function from the Department of the Army, make that a policy and resourcing operation, and let the 4-star commands do the execution.

What do I mean by that? The management of equipping is done by the G-8 [*U.S. Army Deputy Chief of Staff, G-8*]. The G-8 decides whether a tank or a Blackhawk or a truck goes here or there. So let's give that to the Materiel Enterprise—let the Materiel Enterprise be the equipping manager. Let the Army Sustainment Command be that materiel manager. Give them the policies and priorities of the Department of the Army and let us execute that mission rather than have it be executed within the walls of the Pentagon. The Navy has been very successful, at least on the Naval Air Systems Command side, in allowing the execution arms on the naval aviation side (both the NAVAIR and Airboss, the two 3-stars) execute their aviation strategy, and letting the Department of the Navy resource them. We are going down that road. It's just a matter of how fast and how many bumps we go over.

Q
Several years ago, I had the opportunity to go to one of the Wednesday morning staff briefs where the chief or the vice took the briefing from the staff, and the thing I walked away with at that particular time was it appeared that it was a very

centralized focus on the now rather than trying to do the long range.

A
That's a great point and a great take-away, and something I should have mentioned earlier. Because the Department of the Army is executing the war, who is doing that long-range planning? Who is doing that divisionary piece? Let us execute: That is our job, our core function. Let those men and women in the Pentagon do the big-brain work.

Q
As the Army realigns core competencies and resources into the four core enterprises, how is this affecting AMC?

A
No core enterprise of the four can operate independently of the others. We take the demand signal from Forces Command. We operate on installations that the Services and Infrastructure Core Enterprise runs. So across the core enterprise is this integration that is absolutely key. It is done at several levels. One is obviously at the Army Enterprise Board—the 4-star—level, and then there are 3-star sessions, 2-star sessions, and on down into the 0-6 level.

As an example, because I mentioned the DOL, we have got the DOLs now, not because we are trying to build empires, but because that's part of our core competency, which is logistics. We also have 25 installations that we run. That isn't our core competency, it's services. We have a pilot with two government-owned, government-operated installations and two government-owned, contractor-operated installations that the Services and Infrastructure Core Enterprise will run at zero-sum gain, where it makes sense.

As I mentioned before, we have taken the DOLs. When you were in the Army and you went to Fort Benning, Ga., or if you were Air Defense, and you went to Fort Bliss, Texas, to basic and advanced courses, the fleet of air defense weapons systems was managed and maintained by the school—not their core competency. It is now managed by AMC at a much lower cost and a much higher readiness rate.

Q
*Have you seen any challenges trying to synchronize resources as you look at ARFORGEN [*Army Force Generation*] and trying to tie that all together? It seems that there would be significant challenges requiring a lot of brain power to synchronize and integrate the entire effort.*

A
I went to a reset session yesterday with the Army Sustainment Command, with each of the AFSBs and the lifecycle management guys. We went down every unit that is in reset and every piece of equipment of every unit that is going through reset. And for equipment that wasn't at the right level of operational readiness, our folks knew, with very specific detail, what needed to happen to make it right. This detailed level of accountability is what we go through to support the ARFORGEN.

ARFORGEN works, especially in this environment of constant rotations. Will it work when we get to a steady state—peacetime—again? I don't know; somebody smarter than I has to figure that out. But it's working now, and the reason it's working is because Congress has resourced us to do it. As the chief says, if you can't run an Army on $250 billion a year, something is wrong.

Q
The reset effort in Iraq and in Afghanistan is requiring a great deal of resources and strategic effort, as we know. What is AMC's role in the resetting of equipment?

A
The chief has given the CG, Gen. Dunwoody, the mission to reset the Army. Now, that is "reset" in small letters. All caps "RESET" literally is the Army—people, installations, equipment. The small reset is the equipment. The general takes that very seriously.

Specifically addressing the stuff coming out of Iraq and very soon Afghanistan, Gen. Dunwoody has asked me to lead an organization that we've named the Responsible Reset Task Force, a very small 30- to 40-person cell that sits at Camp Arifjan, Kuwait. In fact, I'm going over there in a couple of weeks for an extended period of time. As we help ARCENT [*Third Army/U.S. Army Central*] carry out their mission, all we are is a catcher's mitt for those items that are not needed in Iraq, ARCENT, and the CENTCOM area, and that need to come back to a source of repair. The pieces of equipment are going to come back to any number of those sources of

repair, obviously centered around depots for aviation down at Corpus Christi Army Depot, Texas; trucks at Red River Army Depot, Texas; tracks at Anniston Army Depot, Ala.; communications and electronic gear up at Tobyhanna Army Depot, Pa.; and Letterkenny Army Depot, Pa., does a little bit of wheels, Patriots, Force Providers, and so on.

Again, these are not your father's depots. There were 45 public-sector Shingo Awards given out from 2005 to 2009 and AMC won 26 of them. Letterkenny won an award during each of those years. No other organization can say that. Before 9/11, we were pumping out 20, 25 humvees [*HMMWV—high mobility multipurpose wheeled vehicle*] a week at Red River Army Depot in Texas. We are doing one every 16 minutes now. Just hold onto that thought for a minute. If you go down to Red River, you will see a pulse line, and every 16 minutes, a humvee moves down the line. There are nine stations along the line. It is just incredible to see. When you have the resources, you can do wonderful things.

Our depots are taking the stuff that is not needed from Iraq and the CENTCOM area and starting to fill the holes back in the units. As you well know, when the first units went over, they took all their kit and they left it behind when they came back, so we have a lot of theater-provided equipment over there. As we are drawing down, we are bringing that stuff back, and it needs to be fixed because it has been ridden hard and hung up wet.

The CG gave us some very clear guidance: Get accountability, which we—the Army— didn't have. We do now. Get visibility. We didn't have it; we do now. Get that stuff moving: velocity. We are doing that. And we triage the equipment as far forward as we can so that good disposition instructions can be given. Maybe that FOB [*forward operating base*]-running truck doesn't need to go to Red River Army Depot; maybe it just needs to go to the DOL and get a good 10/20 [*maintenance term meaning all parts are in working order*] done on it. Those are the tenets that this R2TF [*Responsible Reset Task Force*] under Jack Dugan [*former TACOM deputy commander*] has taken on.

Q

It seems you take a tremendous amount of pressure off 3rd Army over there, having that type of resource, a catcher's mitt, if you will. Do you help with your expertise, in trying to prioritize and make recommendations to 3rd Army and CENTCOM?

A

Our R2TF has a seat at the table. We are embedded in Lt. Gen. [*William G.*] Webster's [*commander, Third Army/U.S. Army Central*] organization. We coach, mentor, and teach; we take orders. We drive on with his intent as it relates to the responsible drawdown. It is really a huge team effort and I've got to tell you, Lt. Gen. Webster listens also. When Jack Dugan and the team mention something to him, he takes it as he would input from one of his staff and acts on it accordingly.

Q

One of the places you mentioned was the Letterkenny Army Depot. I run the Senior Service College Fellowship for the Department of the Army Civilians at Aberdeen Proving Ground, and in October 2009, I took my fellows to Letterkenny. The thing I walked away with was the unique commercial governmental partnerships.

A

We have dozens of partnerships throughout our depots, where the prime contractor or the original equipment manufacturer will come in with their expertise, and we'll provide the bricks and mortar and labor. They get world-class quality artisanship without having to sink cost into physical facilities, and we get the revenue from it, so it is a win-win situation.

A great example of partnership is the T-700 Turbine Engine line at Corpus Christi [*Army Depot, Texas*], for the UH-60s—the Blackhawk helicopters—and the 64s—the Apache helicopters. Six years ago, it used to take more than 300 days to recap an engine. Aviation and Missile Life Cycle Management Command entered into a partnership with GE, and the partnership said GE will provide 100 percent of the parts, 100 percent of the time, at the point where the artisan needs them on the line. It went from 300-plus days to 68 days. Now you tell me how many engines we don't need when we have the turnaround time like that at the supply chain. We saved hundreds of millions of dollars that way.

Q

Would you address how AMC is using its reset experience to help execute the drawdown of equipment in Iraq and build up in Afghanistan? You touched on it earlier.

A

Yes, I'll expand on that. Part of the catcher's mitt is that if something is needed somewhere else in CENTCOM—for example, if a truck is coming out of theater-provided equipment in Iraq and is needed in force packages on the surge—we send it to a refurb operation; not a reset, but a good 10/20 operation. In Kuwait, we have a contractor for light-, medium-, and heavy-wheeled vehicles; we have a forward repair activity for communications equipment, C4ISR [*Command, Control, Communications, Computers, Intelligence, Surveillance and Reconnaissance*], and then we help the Military Surface Deployment and Distribution Command ship the equipment to Afghanistan where it is married up at our AFSB at the 401st in Bagram Air Force Base, and the team there will then populate the wheel with the current configuration requested by the theater. It really is Ph.D.-level logistics.

Q

Can you continue to track it—do you have in-transit visibility as the equipment moves along?

A
You know, it takes 17 days to go through the northern route through Pakistan, 12 days to go the southern route. Once the piece of equipment gets off the boat at Karachi, no American touches it—it is all contract because of the political situation in Pakistan. So do we have visibility? Yes. Is there pilferage? Yes. You've seen the pictures and damage.

Q
Are there lessons that you are learning as you go along that you can plow back in and improve the process?

A
Yes; we'd be remiss if we didn't learn from our experience. We all do. As an example, we have not used a tank or a Bradley [*infantry fighting vehicle*] in anger lately in Iraq; so why are we sending them back to depot for repair? We are taking a look at that.

We are also taking a look at one of the bigger challenges, which is non-standard equipment. The last data point I had was somewhere north of $46 billion of nonstandard equipment. And what's the definition of NSE? It's something that's not on an MTOE [*modified table of organization and equipment*]. It is a result of the wonderful resourcing that Congress has given us, and the ability to take a commander's requirement and turn it into something necessary. We've taken that NSE and given it to the warfighter, and then what? Well, we are supposed to pick it up on the property book, but it didn't always make it there. So all items that are on that FOB that aren't unit equipment are being looked at by our teams, and if they are not on the property book, they are brought to record. That is how we know we have $46 billion so far.

If we lose an airplane to combat loss or accident, we have the dollars to replace it probably in the next year and certainly within two years. Congress and the Department have been great in providing resources.

A lot of that stuff is a cell phone, a laptop computer, or something of that type. It may just get thrown away. But maybe that night vision piece or that radio that are not on an MTOE, needs to go back to Sierra Army Depot, Calif., and they can stock/store those pieces out there. What we don't have is dollars to repair them. Because it's non-standard equipment, it doesn't come with a budget line for sustainment, and that makes sense. But if it's in good shape and a customer wants it, give it to them! IMCOM has our list of NSE. Just last month, we got 1,700 items, valued at well over $10 million, of force protection gear for our guard forces in IMCOM. It's a win-win situation for the Army to make sure we take care of our nonstandard equipment.

Q
It always seemed to me that on the process you just mentioned, the Achilles heel is that you don't have the logistical tail to support it. It's great to get NSE out to the warfighter, but then how do you maintain it?

A
Exactly—and then what? So the 101st takes over from the 82nd; do they even want that piece of equipment, or do they want something else? And as you well know, Moore's Law [*named for Gordon E. Moore, cofounder of Intel, who described the trend in 1965*] states that technology and computers refresh every 18 months. So I am buying laptops now that aren't going to be needed 18 months from now. Yes, it's a challenge, but we are fighting a different war too. We are fighting in an operational environment that is nonstandard to begin with.

Q
As the equipment is coming out of Iraq, where is it going and what needs to happen to it to ensure it's ready for the next mission? What is AMC's role in these efforts?

A
When a truck comes out of Iraq, it goes to Red River Army Depot. It gets in the queue and goes through the program and then it comes out brand new, zero miles, zero hours, and it is ready to go to wherever it needs to go. That's the challenge we have right now.

There are holes in our formations in all components because there is theater-provided equipment. The prioritization the Pentagon gives the depots to get that stuff out and to a particular unit is very critical, and the synchronization is Ph.D. level. Each unit has an equipping synchronization board right as it goes into reset, and then the timeline for that MTOE is laid out.

Now that being said, the chief challenged Gen. Dunwoody to come up with a better way to manage and distribute our equipment. At present, the Army has no single integrator of materiel. Multiple managers such as Army G-8, G-4, G-3, the Reserve component, program executive offices, the medical community, AMC and others have a hand in

the process. By establishing a lead materiel integrator we can optimize materiel management and synchronize the "demand" signal from the Readiness Enterprise with the Materiel Enterprise to drive equipment flow. We're running a pilot later on this month at Rock Island to compare alternatives to the current way of doing business. The goal is to influence a cultural change in Army equipping business practices to become more efficient, increase readiness, and save taxpayer dollars.

Q
Do you provide the interface and have any dealings with the host nation as we try to transfer some of the equipment over to the Iraqis and Afghans?

A
Yes; obviously, through foreign military sales and pseudo-foreign military sales, we are tied tight with USF-I and CSTC-A, [*U.S. Forces-Iraq and Combined Security Transition Command-Afghanistan respectively*] those two acronyms that stand for helping to equip the two nations, their police and military. We have a very close relationship. As they need a piece of kit and we can help provide it, we will. We are doing that now with humvees for Afghanistan.

Q
Asset visibility and accountability are critical to success, but they have always created challenges for our Army. How is AMC leveraging new technologies to continue to improve things in this area?

A
One of the things that AMC did back in 2006 and 2007 was start an initiative called "left-behind equipment" or LBE. When 10th Mountain Division left Afghanistan, the division commander, then- Lt. Gen. Benjamin Freakley, called AMC and said, "I need somebody to take the equipment we're not taking with us and maintain it for a year."

So we started this process, and it has grown. Part of the reset process I got last week from Rock Island was an LBE brief. Each unit gave us some equipment. That equipment is being maintained by a 10/20 standard while the unit is gone, and in some cases, the equipment is being transferred to fill holes for the next deployers. There are 10,000 lateral transfers for one year at Fort Hood—I don't know if that is good or bad, but it is a lot.

Q
It's got to represent a huge savings if you are able to transfer equipment as people are coming in, then they aren't shipping it .

A
Yes, indeed; however, I think the more important factor is we are allowing the next-to-deploy commander the ability to train.

So we are managing left-behind equipment better, but that doesn't directly answer your question about property accountability. We have fallen somewhat behind on that. We're conducting what used to be called a "report of survey" back when I was still down in motor pools. It's now called a FLIPL or financial liability investigation of property loss. Rock Island now has teams in Iraq and they are getting serial number items in and have recovered hundreds of millions of dollars of FLIPL materiel that was being written off. That's the challenge the boss gave us, and AMC is producing. Are we there yet? I would say we are pretty close, not only with standard equipment, but with nonstandard equipment too. As you know, we didn't know how much we had, and now we have a baseline.

It's been recognized by the senior leadership of Forces Command, the senior leadership of the Department, and the senior leadership of AMC that we have got to get back into a better supply discipline posture.

Q
Do you still see the same amount of turbulence Stateside with trying to maintain accountability, whether it's MTOE left behind or TDA—table of distribution and allowances—left behind, things of that nature?

A
I am not sure. Let's take Fort Hood, for example, and our 407th AFSB. Four or five months after a unit's return date, we start to reissue them the equipment that they left behind, and it's going to be complete and in good working condition. We will have taken their unit equipment and reset it, from small arms to gas masks to radios to vehicles to tracks, and we give them a set of complete kit. I think that at least at that point in time, property accountability is in pretty good shape. What I am concerned with is back in the theater. Is property accountability priority number one there? No. Should it be? No! But can we do better? I think we can.

Q
Have you had significant challenges with battle losses?

A
Fewer than you might think. Every loss is terrible, of course, especially if a soldier is involved, but the resources have been very good. On the aviation side, if we lose an airplane to combat loss or accident, we have the dollars to replace it probably in the next year and certainly within two years. Congress and the Department have been great in providing resources.

Q
I've enjoyed this conversation with you, Sir. Thank you for your time.

Why DoD Contractors File Protests, Why Some Don't, and What the Government Can Do

Steve Roemerman

In 1998, I published the results of a 1997 informal poll of defense executives, asking, "Why do DoD contractors file protests?" ("Why DoD Contractors File Protests...and Why Some Don't," *Program Manager*, March-April 1998). In the dozen years since the publication, the calls and questions I continue to receive suggest an enduring interest in the subject, and for that reason, I repeated the poll in conjunction with other research.

For the 2010 poll, I used more formal methods. Fifty-nine respondents representing a cross section of government and industry professionals shared their views. Since the emphasis was on contractor behavior, we sought more respondents from industry and in particular those with experience in the program bidding and capture disciplines. They had experience in a wide range of DoD contract types and sizes, and had been involved in the procurement of nearly every type of item and service DoD purchases.

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Of the respondents, 52 had industry experience and roughly half of those also had government experience. Ninety percent of the respondents said they had been close enough to a protest at one time or another to say they had direct involvement of some kind. On average, respondents said they had personally witnessed about three protests, and more than 10 percent of respondents said they witnessed more than six.

A general impression of respondents was that protests have become more common, with nearly 70 percent saying protests were either somewhat, or much more common. A striking result was that none of the respondents felt protests had become less common. That agrees with a recent Government Accountability Office (GAO) report that in fiscal year 2009, 1,989 protests were filed, a 20 percent increase over the 1,652 protests filed in fiscal year 2008, and up 50 percent over fiscal year 2006.

Several Factors, Not Just One

Our respondents cited the causes of over 150 protests they had witnessed. On average, each respondent offered about four causes—they tended to see protests as the result of several factors more than of a single thing. As in the earlier article, I have ranked the reported reasons why DoD contractors protest based on how often a cause was cited.

1. Decision maker at the contractor expects to win

Nearly 90 percent of respondents offered this reason. It was also first on the 1998 list, when most respondents felt it was a false expectation.

2. The government really does make mistakes

In a striking change, more than two thirds of respondents gave this reason. In 1998 most respondents said they could not think of an example involving a major contract. An important but unanswered question is why the perceived rate of errors by the government seems to have increased so much in the past decade.

3. Delay the award or program

Over 40 percent of respondents felt that for a number of reasons, it may seem to be in the loser's tactical or strategic business interests to delay the award. These reasons may involve older programs, funding, and several other issues. A recent seminar by a law firm handling protests seemed to suggest this as a reason an incumbent who loses a recompetition should file. During the delay, the outgoing incumbent gets more business.

4. Yelling at the referee

In the 1997 interviews, several contractors suggested that a protest changes the next competition. An explanation of this concept was offered by a contractor who said, "When I yell at the ref, I don't really expect him to change his call, but I do think he'll look at the next play from my point of view." About one third of our 2010 respondents shared that point of view, but the belief was more common among government respondents than industry respondents.

5. Prove we did everything possible

This "proof" can be aimed at demonstrating resolve for the board, for executive management, or it can be the senior ranks "proving we back up our troops."

6. Confusion over Award Criteria.

If the losing contractor misunderstood the government's selection criteria, it can be a short step to filing a protest. Nearly 30 percent of respondents felt they'd seen this contribute to protest filings.

7. Poor Debrief

In the dozen years since the first article, many losing contractors have shared stories of bad debriefings that angered bidders and "almost" caused a protest. Ironically, some of these aggressive debriefs made the loser more inclined to protest, and respondents felt that did trigger some protests. In one example, a PCO [*principal contracting officer*] did not follow the Federal Acquisition Regulation, declining to provide information clearly required, and further declining a request that he review the FAR and reconsider. The losing bidder was left with the clear impression that the PCO simply did not respect the bidder enough to play by the rules. This same command did a debrief for a different competition in which the most common response to contractor questions was (according to the bidder), "No, we won't discuss that." In another case, a government program manager was apparently intent on proving the weakness of a losing proposal. The PM went far from the government's scripted position in responding to the bidder's questions. Instead of committing to get back with an answer, the PM offered extemporaneous reasons that stunned his PCO (because they were irrelevant to the selection of a winner) and angered the bidder (because they were clearly wrong). In both cases, the anger of the losing firm and the apparent lack of transparency by the government set up the climate for a protest to be filed. "Poor debrief" was statistically tied with "prove we did everything" and "confusion over award criteria."

Four other reasons to protest were chosen less frequently. Less than one fourth of respondents offered these reasons:

8. Protest as a matter of policy

After the 1998 paper, some people claimed that some contractors protest frequently. One prime said that as a matter of policy, his firm protested nearly all losing bids. Almost one fourth of respondents said they believed they had seen this kind of policy at work.

9. Expectation of a quid pro quo

The contractor does not expect to win per se, but does expect to make some strong points and negotiate a side agreement. This was another topic that industry respondents were less likely to cite than their colleagues in government.

10. Obtain competitive intelligence
About one sixth of respondents thought losers sometimes feel that the protest process can give them competitive insight.

11. Hurt the winner
About one seventh of the respondents felt they'd seen a loser file a protest aimed at hurting the winner.

Environmental Conditions Contribute

During the 1997 interviews, we noted factors that were not "reasons" contractors file protests, but were environmental conditions making it more likely protests would be filed. When we explored these topics in 2010, we found some changes, but little difference based on the background (industry vs. government) of respondents. The following results are (again) rank-ordered:

1. No New Procurements in Sight
In 1997, our interview subjects said that if the awarding command, has no expectation of additional opportunities for business in the foreseeable future, a rejected bidder can easily rationalize there is little to lose, even if the protest is poorly founded. Nearly 80 percent of 2010 respondents agreed with that, and it was, again the most cited environmental cause of protests.

2. Marketplace decline, industry consolidation
Tied with "no new procurements," declining markets was (as in 1997) high among environmental factors and can make the contractor more prone to desperate moves.

3. Government spends too much time and effort trying to prevent a protest
In 1997, contractors said they sometimes felt a government program manager who talks a lot about preventing a protest must be planning to do something that warrants one, creating an environment where protests become more likely. Even so, this reason was in the bottom half of the list of environmental factors in the earlier work, but in 2010, it was cited by more than half of respondents.

4. Decline of experience among government procurement staff
This was not a cause cited in 1997, but in 2010, the decline in experience among government program managers, contract officers, and technical staff was seen as an environmental cause of protests. Contracting officers were somewhat less likely to be seen as being inexperienced. There was a significant difference in perception between industry and government respondents; government respondents were less likely to see this topic as a problem than their industry colleagues.

5. Poor government communications
During the earlier interviews, we found that when award criteria are poorly understood, if a debrief is delayed without explanation, if a contracting officer missteps, or if a myriad of other communications problems happen, the contractor can be led to assume the government has something to hide. More than 40 percent of respondents in 2010 felt those kinds of issues helped create the environment for filing a protest, but a majority of industry respondents held this view, while only a third of government respondents did. That seems to suggest government procurement personnel may misunderstand the importance of clear communication with industry.

If a protest is filed, don't shut down communications. Having a senior official call executive management of the bidding company might result in a withdrawn protest.

6. Poor legal advice from the contractor's retained counsel
Our previous interviews suggested internal corporate attorneys were loath to file protests, since they generally expect to be on the job when the protest is settled, and the contractor usually loses. On the other hand, retained counsel generates fees from protests. Deadlines for protest filing almost assure proper review is impossible, so it can be hard for even the most ethical counselors to urge a contractor not to file. The retained counsel sometimes suggests filing before the deadline to keep the contractor's options open. But this can create momentum that keeps the protest moving ahead. While seeking outside counsel may be highly correlated with actually filing protests, only about one in six of our 2010 respondents felt "poor legal advice" was a contributing environmental factor.

7. New procurement or competitive factors
If the government uses new acquisition techniques, or if there are new winning competitors in a marketplace, these changes may increase the likelihood of protest. However, only one seventh of the respondents saw this as a contributing environmental factor.

Why Some Firms Never (or Almost Never) File Protests

1. No one ever wins
This was the most common reason cited in 2010 and in the earlier survey. If "winning" means having the protest

upheld (or "sustained"), the facts support the perceptions of our respondents. GAO's reported sustain rate for fiscal year 2009 was 2.8 percent, lower than the 3.8 percent rate the prior year and below the long term average of about 5 percent. But other data suggest protestors are not betting on such long odds. The same report shows 45 percent of protestors got some type of relief (such as having their bid costs reimbursed).

2. Fear of negative consequences

In 1997, some interview subjects disagreed with the idea that yelling at the referee was a good thing, feeling it might cause punitive actions. In 2010, more respondents felt this was a reason not to protest than saw it as a reason to file a protest.

3. Cost

More than one third of respondents felt the cost of filing a protest was too high. In interviews, many felt that "only the lawyers really win." However, this was a topic where government experience seemed to matter a great deal. Those with government experience were more likely to agree that cost is a reason not to file. Since industry legal costs are usually absorbed in overhead or general and administrative expenses, it may be that some in industry don't really know what a protest costs.

4. Extending the embarrassment and pain

Sustaining a negative dialogue with customers is something that about one fourth of respondents saw as a deterrent to protesting.

5. Belief that the government made a mistake, but…

About one in six respondents felt that expecting perfection from the government was an unreasonable standard, and not a reason (alone) to protest.

6. Belief that the customer has the right to do business with whomever he chooses, even with public money

This was the least popular proposed reason not to protest. While some industry respondents agreed with this idea, none of the respondents whose only experience was working in a government procurement organization agreed with it.

How to Reduce the Odds of a Protest

In 1998, we offered five suggestions for reducing the odds of a protest. The data show these principles to still be true today.

Communicate the long odds and downside of protest filing—not as a threat, but simply as information. In particular, if your command has a low rate of protest sustainment, that may be worth communicating as part of your regular informational briefings.

Communicate the selection factors prior to proposal submittal, and if they are largely subjective, admit it. Some draft requests for proposal don't include sections L and M in the draft, and in some cases, there may be valid reasons for omitting them. [*Section L gives instructions for formatting and submitting the proposal; Section M lists the evaluation criteria*.] However, the government can still provide some insight into those areas, and if award criteria are still in flux, it's always appropriate to simply state in the draft RFP that criteria are still being developed, and industry comments on the matters is welcome.

If the environment is changing, discuss the changes with prospective bidders. If nothing else, the program manager and program executive office (PEO) need to know that environmental factors may increase the odds of protest.

Manage and meet expectations, especially in debriefing. State the time expected for debriefs when the RFP is released. Don't let the time needed to prepare debriefs seem suspiciously long. Don't aim debriefs at preventing protests, but rather at the merits and lack of merit of the bids. The government need not prove anyone submitted a bad proposal, only that the winner submitted the best. Comply with the FAR. The debriefs we've seen in which the PCO simply didn't bother to comply infuriated the losing bidders.

If a protest is filed, don't shut down communications. In 1998, we suggested that having a senior official call executive management of the bidding company might result in a withdrawn protest. Since that time, we've seen the theory proven. One very contentious development competition saw a protest avoided when the PEO called the division president of the losing bidder. The PEO simply stated his belief the decision was sound, without being aggressive or argumentative, but reaffirmed the company's right to protest. The conversation moved to the cost of the legal effort to both sides, and the president committed to the PEO to withdraw the protest. It seemed the PEO's call persuaded the president that the government had nothing to hide. Generally, we believe the government need not take a particular position but need only ask if the corporate executive knows a protest has been filed, or if there is some information the government might provide to help the contractor choose to withdraw. In any event, the government should do nothing to add to a climate of suspicion.

A final caveat. As in 1998, I have never been party to filing a protest, and have no plans to do so in the foreseeable future.

The author welcomes comments and questions and can be contacted at sroemerman@lsaero.com.

Applying Acquisition-Based Risk Management to Non-Acquisition Projects

Bryan Felkoski and Rob Malone

When discussing the storage, maintenance, and demilitarization of the Army's chemical weapons, risk is often thought of in terms of chemical agent release or exposure, but the Chemical Materials Agency (CMA) must also define risk in terms of cost, schedule, and performance impacts.

CMA is organized like many typical Army programs with a program manager who oversees three major project managers as well as supporting staff elements. Where it is atypical is that there are two separate reporting chains—the demilitarization mission through the Office of the Assistant Secretary of the Army for Acquisition, Logistics and Technology (ASA[AL&T]) and storage and

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maintenance through Army Materiel Command; yet they are interrelated and dependent upon one another's execution. Successful achievement of milestones such as the April 29, 2012, Chemical Weapons Convention treaty can now be evaluated to determine likelihood of success and provide the storage and demilitarization project managers better visibility of cost and schedule risks from within and external to their project.

The CMA has established a risk-based scheduling process for demilitarization using the principles provided in the *Risk Management Guide for DoD Acquisition*. Given the success of the process, CMA is expanding the application of the principles to the storage mission. The intent of this effort is to ensure that risk associated with non-acquisition projects and missions, site closures, and Base Realignment and Closure-related issues are addressed as early as possible so that CMA is positioned to meet established milestones. The goal of this effort is to develop a process that provides value to all, from the site workforce to Army higher headquarters. This process should also be implemented in a manner that is auditable and defensible to the various audit agencies.

CMA has established an integrated process team (IPT) whose mission is to export the Project Manager for Chemical Stockpile Elimination risk-based schedule process to the chemical storage sites under the name of CMA Risk and Integrated Schedule Process (CRISP). The purpose of the CRISP is to incorporate non-acquisition elements into the acquisition risk management process so that the program office can fully identify, analyze, mitigate, and status-project and program risks across the enterprise. The primary objective of the CRISP is to foster communication through the development of a plan of action and milestones (POA&M), an integrated risk landscape (IRL), and an integrated program office estimate (I-POE) of schedule.

Implementing CRISP at Deseret Chemical Depot

Deseret Chemical Depot (DCD) in Tooele, Utah—CMA's most complex site—was selected as the location to begin implementation of the CRISP concept. DCD was considered the most complex site because it has multiple projects, some of which had not implemented a risk management process; there are multiple stakeholders for each of these projects, complicating the interface between projects; and DCD is a site going through realignment as opposed to closure. In addition, DCD has Resource Conservation and Recovery Act hazardous and solid waste management areas, the closure of which requires negotiation between the Army and the State of Utah's environmental regulators to establish an end state of selected facility areas.

As mentioned above, the primary objective of the CRISP is to foster communication through the development of a POA&M chart, an IRL, and an I-POE of schedule. The POA&M is a high-level depiction of all projects and activities occurring at DCD. It also illustrates the inter- and intra-dependencies of these projects. The IRL is a qualitative and quantitative accounting of the risks affecting these projects. The I-POE is the application of those risks to the schedule to determine overall impact to specific milestones of interest to project and program leadership. The CRISP IPT was divided into four phases:

- Phase 0: Evaluate existing resources, processes, and schedule and risk products
- Phase 1: Develop the POA&M
- Phase 2: Develop an IRL and I-POE
- Phase 3: Develop a process for management and maintenance of an integrated process at DCD.

The IPT defined a successful approach as one that provides the CMA/DCD leadership a clear understanding of the risk landscape and potential impacts, both internal and external, across the DCD enterprise. This approach provides a credible basis for establishing confidence in attaining schedule goals. The IPT's products were structured to provide a proactive and actionable basis for managing risks.

The IPT was endorsed and supported by leadership within the project and program offices and was coordinated with key program support functions as well as support and systems contractors. At the conclusion of IPT mission, the IPT was formally closed, initiating ownership of the process by site personnel at DCD.

The Evaluation Phase

During the evaluation phase, the team reviewed the tools the project offices were currently using for planning, scheduling, and risk management. The review included processes, products, existing meetings, forums, and information management utilizing existing processes and products whenever possible. The evaluation phase also allowed for the formal creation, staffing, and endorsement of the IPT, and it established IPT expectations for CMA headquarters and site leadership.

Developing the POA&M

Phase 1 started with the development of a site-wide Gantt chart that considered the project's high-level activities in terms of critical path, current understanding of activity sequencing, intra-project predecessor/successor relationships, and interfaces. Using the forward-looking acquisition concept, a POA&M chart was developed showing major project schedule elements, critical gateway and review milestones, and important logic links that defined critical path to major milestones. This POA&M established the earliest credible plan (ECP) for completion of the mission at DCD. An ECP was defined as a realistic plan that assumes the activities are executed according to schedule (i.e., actual duration = planned duration) and all risks are mitigated.

Developing the IRL and I-POE

Phase 2 of the IPT was initiated through a series of schedule and risk workshops held with representatives from each project team. Project schedules were developed using commercial off-the-shelf software packages that allowed for risk analysis. Individual project schedules at DCD were linked through logic ties to establish the basis for predecessor/successor relationships as defined by the POA&M. Using concepts from the *Defense Acquisition Guidebook* and the *Risk Management Guide for DoD Acquisition*, risk workshops were held to define risks within and across projects. The workshops developed risk landscapes and tied risks to specific schedule activities and milestones. Whenever possible, risks were defined using quantitative information from prior experience or knowledge. A basis of estimate was recorded for each risk such that future evaluation, trending, and status could be determined during the risk monitoring phase.

Individual project risk and a DCD enterprise risk register were developed and staffed through the DCD leadership. Risk analysis was performed on the integrated schedule to evaluate the ECP and most likely schedules at the project, major milestone, and total mission levels at DCD. Outputs from Phase 2 of the IPT included an updated POA&M, no longer based on the planning of the IPT, but an integrated project schedule utilizing an ECP approach. The POA&M has become the document that captures all activities at DCD, providing a communication tool for internal and external stakeholder discussions, and the document that illustrates "one plan, one vision, one mission." The second product from Phase 2 was the IRL, which provides a database of the site's current definition of project risks, their probability and consequence, basis of estimate, risk owner, risk response plan, and time-phased monitoring data. The third product is the I-POE of Schedule, the application of the IRL to the POA&M. From these three products, analytical tools such as confidence curves, tornado diagrams, and confidence trends were developed. The synthesis of those tools aids the communication of a common vision to all stakeholders, both internal and external, up through the acquisition and non-acquisition chains of command.

Developing the Management and Maintenance Process

Phase 3 established the ground rules for how a site-led IPT (the DCD Risk Management IPT or DCD RM-IPT) is conducted; the frequency of meetings; the products and how they would be used; and the processes necessary for dissemination of the information. The IPT determined that a quarterly cycle provides the best benefit for the costs incurred. Project-level IPTs meet as necessary to update project schedules, risk landscapes, risk mitigation strategies, and to evaluate inter-project links fostering the quarterly site-wide risk workshop. Cyclical evaluation of tactical (e.g. complete disposition of process wastes) and strategic (e.g. meet treaty goals) milestones provides a means for tracking progress and remaining risk against achieving those milestones. Since the integrated risk management process helps define a basis for justifying project costs, newly defined requirements, and changes in project scope, its link to the CMA annual update to the current working estimate became inherent to the update cycle.

The CMA has established a risk-based scheduling process for demilitarization ... . Given the success of the process, CMA is expanding the application of the principles to the storage mission.

CRISP Proves its Worth

CMA's mission is to work significant elements of the agency out of business by destroying the chemical stockpile and closing the chemical agent storage activities and chemical depots. CMA has developed a *Transition Planning Guide*, which includes seven key elements to manage the transition of the agency. An unintended benefit of the CRISP is that it provides a quantifiable means to track the status of these transition planning elements. Using the CRISP to evaluate these elements allows identification of the risks that most impact schedule, communication of those risks to internal/external stakeholders and provides a common understanding of what it means to achieve "End of Mission."

Members of the DCD leadership, both the acquisition and non acquisition project managers, have found value in the CRISP products and processes in reporting to their respective chains of command. It became apparent to the IPT that the real value from the POA&M, IRL, and I-POE is that they all facilitate communication of the risks, issues, and requirements to achieve strategic objectives. Additionally, the products being developed are being used to track not only site-level performance metrics, but enterprise-level internal and external performance metrics as well.

The CMA leadership has expressed a vision that incorporates risk management from the lowest to highest levels in the agency and across the two separate reporting chains. At the writing of this article the CRISP has been completed at one site, is being worked at another, and one site remains for implementation. The challenges the CRISP will face in overcoming opposition to existing paradigms are expected; however, IPT members remain focused on value to site leadership while meeting strategic goals of CMA.

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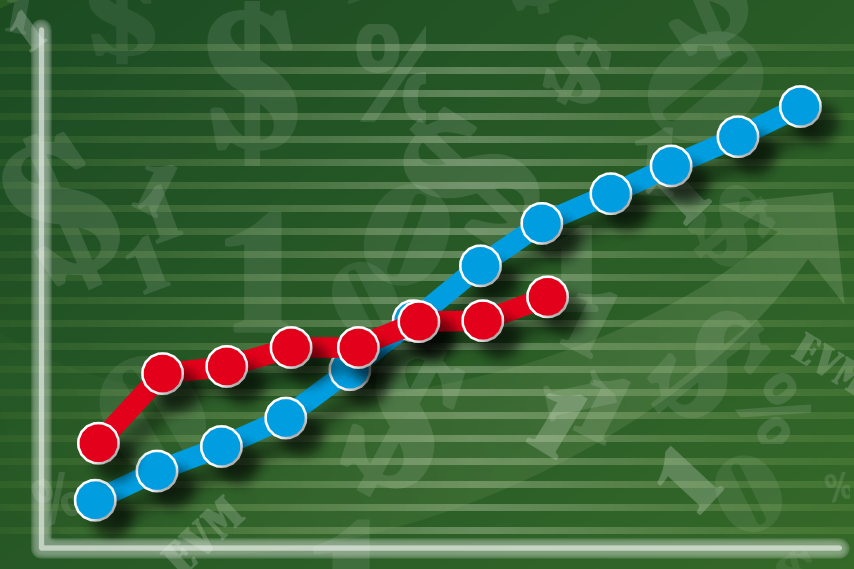
Earned Value Management Acquisition Reform

Paul Solomon



Both Congress and the Executive Office are calling for acquisition reform regarding Earned Value Management in general and information technology projects, in particular. DoD has reported that EVM, based on the Earned Value Management Systems (EVMS) Standard, no longer serves its intended purpose. Project management standards and best practices that are used by commercial companies should be considered for acquisition reform.

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The last major reform of EVM occurred 14 years ago. Today, the implementation and management value of EVM have been strongly criticized by the Department of Defense, the Government Accountability Office (GAO), and Congress. EVM is increasingly utilized by commercial corporations, but most companies do not base their best practices on EVMS, ANSI/EIA-748. The time has come to ask whether DoD and other federal agencies should continue to rely on ANSI/EIA-748 or should adopt the best practices of commercial companies that use EVM voluntarily, not because of a contractual mandate.

EVM's Intended Purpose

The intended purpose of an EVMS was announced in 1996, when DoD accepted industry guidelines for EVMS to replace similar DoD criteria. DoD encouraged industry to develop a widely accepted industry or international standard. The 1996 announcement set forth DoD's vision:

> Adopt ... commercial practices in lieu of government-unique practices. Rely on our contractors to maintain management control systems that protect the public interest. Shift responsibility from government to industry. Support the "insight, not oversight" philosophy underlying DoD acquisition reform initiatives.

In 1998, ANSI/EIA-748 was issued with great fanfare as a U.S. industry standard. The government/industry team that wrote ANSI/EIA-748 received the David Packard Excellence in Acquisition Award. The award stated that the "team has implemented a shift in EVM ownership and responsibility from government to industry and has created a recognized international best practice."

Finally, the purpose of EVM is stated in Office of Management and Budget (OMB) Circular No. A-11, *Planning, Budgeting, Acquisition and Management of Capital Assets*. Section 300-5 of OMB Circular A-11 states that performance-based acquisition management should be based on the EVMS Standard and measure progress towards milestones, cost, capability to meet specified requirements, timeliness, and quality.

The Status and Deficiencies of ANSI/EIA-748

In 2009, DoD reported to the House and Senate oversight committees that the "utility of EVM has declined to a level where it does not serve its intended purpose." Today, Congress is considering EVM as a target for acquisition reform.

EVM is still recognized as an international, commercial best practice, but ANSI/EIA-748 has been largely ignored by commercial companies. When there is no government mandate to use EVM, the Project Management Institute (PMI) *Guide to the Project Management Body of Knowledge* (PMBOK® Guide) is a widely used standard for project management.

Quality Gap

ANSI/EIA-748 focuses only on the work scope and ignores the product scope (technical baseline). It also fails to link earned value with technical performance or quality (quality gap). The Federal Acquisition Regulation, which imposes ANSI/EIA-748, has no requirements for reporting technical performance as a basis for earned value. Consequently, contractors may report progress based only on the quantity of work performed, not the quality of the system being designed and tested.

Additional information about the quality gap is provided in three previous *Defense AT&L* articles, The articles—"Update: SE and EVM Support for Performance-Based Award Fees" (May-June 2007); "SE and EVM Support for Performance-Based Award Fees" (January-February 2007); and "Integrating Systems Engineering with Earned Value Management" (May-June 2004)—discuss remedies that rely on systems engineering standards and contract incentives. They can be downloaded from <http://pb-ev.com/advanced.aspx>.

The key messages of the articles are revealing. If you are measuring the wrong things or not measuring the right way, then EVM may be more costly to administer and may provide less management value. And EVM data, according to the articles, will be reliable and accurate only if the right base measures of technical performance are selected and progress is objectively assessed.

Risk Management Gap

The 32 guidelines in ANSI/EIA-748 fail to address the integration of risk management with EVM (Risk Management Gap). Guidance on risk management was relegated to Section 3, EVMS Process Discussion. However, DoD contractors must be compliant with the guidelines, not the process discussion. Guidance to integrate risk management to EVM, based on the PMBOK® Guide and other sources, is available at <http://pb-ev.com/RiskManagement.aspx>.

The Weapon Systems Acquisition Reform Act of 2009 (WSARA) directed DoD to provide recommendations to improve EVM and its implementation, to discuss the merits of possible alternatives, and to submit a plan for possible improvements. In the WSARA House/Senate conference report, Sen. Susan Collins (R-ME) stated

that the GAO observed that contractor EVM reporting lacks consistency and leads to inaccurate data and faulty application of the EVM metric. "In other words, garbage in, garbage out." Collins concluded that, "With improved EVM data quality, both the government and the contractor will be able to improve program oversight, leading to better acquisition outcomes."

DoD's Response

The DoD's response to WSARA was the report, DoD Earned Value Management: Performance, Oversight, and Governance (DoD EVM Report). The report noted inaccurate EVM status data provided by vendors, and recommended using technical performance measures (TPM) and integrating systems engineering with EVM. With regard to linking EVM to TPM, the report stated that the earned value process is reliable and accurate only if TPM are identified and associated with completion of appropriate work packages. The quality of work, as explained in the report, must be verified, and criteria must be defined clearly and unambiguously. If good TPM are not used, programs could report 100 percent of earned value even though behind schedule in validating requirements, completing the preliminary design, meeting weight targets, or delivering software releases that meet the requirements. The program manager should ensure that the EVM process measures the quality and technical maturity of technical work products instead of just the quantity of work performed. A detailed summary and link are available at <http://pb-ev.com/DoDEVMImplementationReport.aspx>.

The GAO provides guidance regarding TPM in the GAO Cost Assessment Guide, Best Practices for Estimating and Managing Program Cost. The guide notes that progress and milestone events should represent measurable performance in terms of quality and technical performance as well as cost and schedule. Further, performance measures used to report progress in achieving milestones, according to the guide, should be integrated with TPM. Examples of objective measures are requirements traced, reviews successfully completed, software units coded satisfactorily, and number of units fully integrated. Management, the guide concludes, should use the EVM data captured by the contract performance report data to integrate cost and schedule performance data with TPM.

DoD Guides

Many DoD guides, including the *Defense Acquisition Guidebook* (DAG) discuss TPM or quality. The DAG includes new guidance for integrating TPM with EVM and the integrated master schedule (IMS), including contractual TPM reporting. The DAG stipulates that a contractor must now have a TPM plan, defined in terms of expected performance at specific points in the program as defined in the work breakdown structure (WBS) and IMS; the methods of measurement at those points; and the variation limits for corrective action. The DAG also includes expanded responsibility for systems engineering to integrate the technical scope of effort in the WBS; corresponding, event-driven program implementation in the IMS and EVM; technical baselines; TPM; and EVM.

These guides are not applicable to contractors. Without corresponding contractual

1803: Swiss engineers develop the Swiss Army Napoleonic hat

requirements, program managers will be unable to implement much of this guidance. Additional DoD guidance, including matrices that relate all pertinent guides and discuss technical baselines, is available at <http://pb-ev.com/DoD.aspx>.

Quality Gap Examples

During my experience as the EVM monitor on the B-2, F-35, Global Hawk, and other programs, I observed many practices which, although compliant with the EVM guidelines, resulted in overstatement of true technical progress and understatement of the cost and schedule variance. If the contractors' processes had closed the quality gap, the outcome would have been more accurate status reporting, meaningful variance analysis, and more realistic estimates at completion.

Examples abound of compliant practices that led to misleading management information and that would not be permitted if the quality gap were closed:

- Taking earned value based on percent of drawings or software modules complete even though the hardware design did not meet requirements or the software did not meet planned functionality
- Including budget and schedule for tests and rework in management reserve instead of in the initial Performance measurement baseline (PMB), work packages, and planning packages
- Taking earned value for rework and engineering changes based on the actual versus estimated percent of units, iterations, or problem reports instead of on the percentage of requirements met
- Taking earned value for software releases based on turning over the release, even though some of its baselined functionality was deferred to the next release
- Not taking negative earned value to show the true, net percent complete when the number of drawings or other units increased from the baselined number, with no change in the technical requirements
- Not taking earned value for drawings or other units returned for rework, when rework is planned in the same work package as the initial work.

Complete information about the quality gap, with reference to specific deficiencies in ANSI/EIA-748, is provided at <http://pb-ev.com/EVMSQualityGap.aspx>.

EVM Practice in the Private Sector

A worldwide survey of EVM users by the PMI disclosed that the private sector has largely ignored ANSI/EIA-748. Lingguang Song, in *Earned Value Management, A Global and Cross-Industry Perspective on Current EVM Practice* (2010), noted that when the use of EVM is voluntary and not a contractual mandate, only 17 percent of the respondents used EVM based on ANSI/EIA-748.

I have taught EVM to commercial information technology companies in India and South Korea for use on fixed-price contracts. Their EVM processes and best practices were based primarily on the PMBOK® Guide and its focus on the technical baseline and TPM. The PMBOK® Guide practices include differentiating the product scope from the project (work) scope; establishing a quality baseline within the PMB; and use of TPM to integrate technical, cost, and schedule performance.

The PMBOK® Guide citations are shown at <http://pb-ev.com/EVMSQualityGap.aspx>. "Performance-based EV in Commercial IT Projects," an article published in PMI's *The Measurable News*, at <http://pb-ev.com/Documents/MeasNewsPBEVIT2010.pdf> describes how Samsung, the largest IT company in South Korea, integrates earned value and technical performance.

Pending Acquisition Reform Legislation and Policy

The House, Senate, and Office of Management and Budget have proposed, passed, or placed on the Senate calendar legislation and policy that will impact the EVMS for fiscal year 2011 and beyond.

House

The House version of the National Defense Authorization Act (NDAA) for Fiscal Year 2011, H.R. 5136, was passed and placed on the Senate calendar. Section 106(a) requires DoD to review acquisition guidance, including DoD Instruction 5000.02; Section 106(b)(4), which requires DoD to "consider whether measures of quality and technical performance should be included in any earned value management system."

This legislation was proposed because the DoD and industry have not taken action to hold contractors responsible for reporting earned value that is tied to technical performance or quality. The DoD EVM Report did not discuss any corrective actions to require contractors to link earned value to technical performance. The Council of Defense and Space Industry Associations (CODSIA), in its 2009 letter to DoD for the WSARA response, stated that "Industry recognizes that EVM practices have atrophied and that performance reporting on many programs has been superficial." However, CODSIA ignored technical performance.

Senate

The Senate passed S.920, IT Investment Oversight Enhancement and Waste Prevention Act. One of its purposes is to improve the processes agencies implement to manage IT technology investments. The act opens the door to using an alternative to ANSI/EIA-748. It provides for cost, schedule, and performance reporting of all major IT investments using EVM data based on either ANSI/EIA-748 or

another objective performance-based management system approved by the e-Government administrator.

Office of Management and Budget

The OMB recently issued policy memoranda to reform and improve the management and oversight of IT projects. One memorandum includes direction to the OMB deputy director for management to develop recommendations for improving the federal government's IT procurement and management practices. The deputy director must focus on proven best practices from inside and outside the federal government and include higher standards for project management practices. This direction also opens the door to using practices and project management standards that are used by commercial enterprises.

The Importance of Reform

Although government policies and regulations require that contractors be compliant with the EVMS, there are no contractual requirements for contractors to integrate technical performance or risk management with EVM. These gaps impair the management value, validity, and accuracy of EVM reports.

Whether or not the cited provisions of H.R. 5136 become law, DoD should consider revising its acquisition policies to require that earned value be linked to technical performance or quality, not just to the quantity of work performed. The quality objectives should be defined in the technical baseline and PMB.

Risk mitigation plans should be budgeted and incorporated into the schedules and PMB. Further, the Estimate at Completion should incorporate quantified risks.

One way to implement reform is to replace ANSI/EIA-748 with pertinent components of the PMBOK® Guide. An alternative is to revise acquisition policies and regulations, including DoDI 5000.02, to augment ANSI/EIA-748 with provisions for TPM, other objective measures of progress towards achieving the technical baseline, and risk management. Systems engineering standards and the PMBOK® Guide provide appropriate language for the provisions. Suitable language is already in the DAG and other DoD guides.

The acquisition reforms discussed in this article are needed for EVM to serve its intended purpose. Implementation of these reforms can enable EVM to integrate a program's technical, schedule, and cost objectives and to integrate risk management. Finally, these reforms can lead to "insight, not oversight" for program managers.

The author welcomes comments and questions and can be contacted at paul.solomon@pb-ev.com.

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Wanting It

Acquisition Lessons from Cheesy Cinema

Lt. Col. Dan Ward, USAF

Ah, the old phrase "Ya gotta want it, kid." That sentiment, or something just like it, is expressed by every Crusty Old Coach to every Aspiring Champion in every cheesy inspirational movie about a fighter, musician, actor, dancer, or wizard. Whether the hero is a young hopeful or a washed-up has-been, he or she inevitably

Ward *is the chief of acquisition innovation in the Acquisition Chief Process Office, Office of the Deputy Assistant Secretary of the Air Force for Acquisitions Integration. He holds degrees in systems engineering, electrical engineering, and engineering management. He is level III certified in SPRDE, level II in PM, and level I in T&E and IT.*

faces daunting odds and imposing rivals. The only way to come out on top is through a brief period of hard work, generally represented by a training montage featuring a series of attractively lit, picturesque settings, accompanied by stirring music.

But before the training montage can begin, there is always the moment where, with clear eyes or through tears, the actor uses a scientifically calibrated and rigorously focus-group-tested facial expression to convey to all watchers that he or she does, indeed, "want it." This generally involves slowly raising the head from a downcast to an upright position, squaring the jaw and/or shoulders, and adopting the Eye of the Tiger. Ideally, it should be raining when this occurs. Once the desire is suitably established, the training montage can begin.

Let's now rewind the film a bit and put ourselves in this movie. By "ourselves," I mean the defense acquisition community. Consistent with the Hollywood formula, we've been told for years that we're bums. We take too long, spend too much money, and deliver systems that don't live up to their promises. We're slugging along under a history of failed projects, epic cost overruns, unseemly delays, Nunn-McCurdy breaches, bad press, sustained protests and ridiculously expensive toilet seats. That's enough baggage to slump the shoulders of any aspiring hero. But somewhere, deep down in our hearts, we know we can be champions. And so the words of the Crusty Old Coach echo in our ears: "Ya gotta want it, kid."

CLOSE-UP OF NARRATOR
But do we really want it? For that matter, do we even really know what "it" is?

CUT TO BOXING GYM FROM PREV. SCENE

NARRATOR
See, at the point in a movie when the coach makes that fateful statement, the objective is generally clear. The hero wants to beat the scary Ethnic Bad Guy Du Jour, get cast in the lead role, or Show Someone The Money. What about us? In our movie, what achievement are we reaching for?

Such a simple question, so many possible answers. Let's consider a few, shall we?

CUE STIRRING MUSIC

Does the defense acquisition community define excellence as developing weapon systems that represent the highest performance and highest degree of technology possible, with a dazzlingly complex cohort of shiny knobs and gadgets? Or are we seeking to build an environment in which projects never have an overrun, delay or Nunn-McCurdy breach; where protests are rare and are never upheld? Or is there some other target upon which we should fix our sights, some other "it" we should want? It's not clear we have a consensus.

On the one hand, we talk a lot about reducing spending. Then we turn around and insist project expenditure rates stay sufficiently high that we don't leave any money on the table at the end of the fiscal year. We talk about reducing development timelines, but when problems arise we tend to insist that we could fix things "if we just had a little more time." According to the Government Accountability Office, the DoD says we shouldn't spend more than five years developing a system … but 68 percent of the time our initial schedules exceed that five-year window.

We talk about wanting to maximize the bang for the buck, then we measure professional development based on how much more money we're overseeing today than we were at this time last year, with only cursory attention paid to operational capabilities. There's plenty of talk about tailoring our processes in order to reduce the time and complexity of weapon system development efforts, with simultaneous determination that no steps be left out.

We make a lot of noise about wanting to be faster, cheaper, and better. Then we turn around and mock the concept of "Faster, Better, Cheaper," insisting that program managers must "pick two." Such a cynical perspective is entirely incompatible with the role of Aspiring Hero. If there's one thing we've learned from Hollywood, it's that we're all going to wear silver jumpsuits in the future. But if there's two things we've learned, it's that cynicism is for villains. And trust me, if the Crusty Old Coach heard you talking all cynical like that, why, he'd sock you a good one

Let me suggest that acquisition excellence should be described as follows: delivering affordable systems that are available when needed and effective when used. The three key words are "affordable," "available," and "effective." Don't forget to stop by the souvenir shop on your way out of the theater and pick up an Affordable, Available, Effective™ coffee mug. We also have a nice collection of reasonably priced t-shirts for sale.

See, the point isn't to hit the budget target someone set for the program seven years ago. It's not about whether the system includes the most advanced technology possible. Those are programmatic and technical goals and they're fine as far as they go. However, we don't do acquisitions to satisfy the interests of program managers and engineers. We need to

set our sights on operational goals, the stuff the warfighter cares about. Most of the time, the warfighters don't give a fig whether we're on budget or how cutting-edge the system is. They just want to be able to buy it, have it and use it. They want stuff that's affordable, available, and effective. So when the Crusty Old Coach asks if we "want it," that's the "it" that should come to mind.

Which brings us back to the movie metaphor. An important part of the process for every Aspiring Hero is to get out from under the burden of negativity. Sure, the character appears to be a 98-lb weakling who can't sing/dance/fight, and who gets sand kicked in his face, but a closer look reveals a champion lurking beneath the surface. Once again, the Crusty Old Coach is the key. "Your father died before you were born, kid," he says, gazing off into the distance. "But I knew him and he was the best. You've got his eyes/voice/feet/hands." Or maybe the transformation begins with a simple line of dialogue such as, "You're a wizard, Harry."

Please don't let the press reports and conventional wisdom fool you. The defense acquisition community is full of Jedi Wizard Dancers who do champion-level work developing and delivering systems that are Affordable, Available and Effective. Want proof? Just look at the systems the Air Force recognized at the 2010 Acquisition Transformation and Leadership Awards.

CUE STIRRING MUSIC AGAIN. SWITCH TO SOFT FOCUS & BEGIN SUCCESS MONTAGE

The Acquisition Oscars went to a Joint Urgent Operational Need project called BACN (Battlefield Airborne Communications Node), a project by the Rapid Capabilities Office, and a Big Safari program that delivered an aircraft called Project Liberty in seven months. Or consider the amazing accomplishments of the Army's Rapid Equipping Force, which has quickly and inexpensively delivered over 550 systems in six years, ranging from robots to vehicles to a translator device to a "Tactical Garbage to Energy Refinery." Not to be left out, the Navy has its very own Rapid Technology Transition Office ... well, you get the picture. No doubt every one of these projects and organizations deserves its own article, but for now, we'll just cue a slow fade-out of the montage.

END SCENE. CUT TO NARRATOR WALKING THROUGH ATTRACTIVELY LIT, PICTURESQUE SETTING.

Bear in mind, these award winning systems weren't produced by following the standard processes and procedures.

Ah, the old phrase "Ya gotta want it, kid." ... But do we really want it? For that matter, do we even really know what "it" is?

It's just like in the movies. Unconventional approaches executed by unconventional people using unconventional training methods produce world-class results. Wax on, wax off. Punch the side of beef. Run through a swamp with a wrinkly green muppet on your back. Jump around your office and scream a Memorable Catchphrase™ into the telephone.

If Affordable, Available and Effective is the "it" we want, we'll have to move away from the status quo. Specifically, we'll need to put serious effort into simplifying and streamlining our processes, organizations, requirements, and technologies—the weighty burdens we've accumulated over the decades. And we'll have to stop relying on schedule increases and budget growth as our primary problem solving techniques.

See, if there's one thing we've learned from Hollywood, it's that there's no crying in baseball. But if there's two things, the other is that the Imposing Rival, for all his or her advantages (money, looks, talent, strength, prestige) can always be beaten by a suitably scrappy underdog. So it's all the more important that we not rush to assume the villain's mantle and all the corner office accoutrements that go with it. Overengineered solutions that require endless schedules, bottomless budgets and enormous organizations aren't all they're cracked up to be. The best outcomes are often the result of creativity driven by constraints.

Hugh MacLeod explained this in his brilliantly profane book *Ignore Everybody*, "Meeting a person who wrote a masterpiece on the back of a deli menu would not surprise me. Meeting a person who wrote a masterpiece with a silver Cartier fountain pen on an antique writing table in an airy SoHo loft would seriously surprise me." He's got a point there. So let's not underestimate the potential achievements of small teams with tight schedules and budgets.

Look, Cheesy Inspirational Movies don't end up with happy endings because the Aspiring Hero suddenly becomes as rich and well equipped as the Imposing Rival. Fancy tools, lots of money, big support staffs, and other traditional sources of advantage aren't the key to winning. Far from it. What actually happens is that the hero decides he or she

DEFENSE AT&L SAYS GOODBYE TO CAROL SCHEINA

In September, *Defense AT&L* said goodbye to managing editor Carol Scheina, who is leaving the workforce temporarily to spend time at home raising her son, Will, born in July.

Scheina served as managing editor from August 2007, during which time, she was a strong force for change. She drove a major design change that moved the magazine from a two-color to a full-color publication and introduced a magazine survey process to better understand the needs of the readership. Since these two initiatives, the magazine has been recognized with four awards for publications excellence: the Apex Award for 2009 and 2010, the International Association of Business Communicators Silver Inkwell Award for 2009, and the National Association of Government Communicators Blue Pencil Award for 2010.

Before coming to DAU, Scheina spent four years at the Defense Information Systems Agency as a speechwriter and subsequently as publications team leader, managing a creative team responsible for the production of all the agency's publications. She was also managing editor of *Inside DISA* and *The Grid*, the agency's internal and customer newsletters respectively.

Scheina holds a master's degree in English, professional writing and editing, and a bachelor's degree in English, nonfiction writing and editing with a minor in electronic journalism.

Carol and her many contributions will be much missed at *Defense AT&L* magazine, but we are happy to know that our loss is Will's gain.

Judith Greig
Contributing Editor

Let me suggest that acquisition excellence should be described as follows: delivering affordable systems that are available when needed and effective when used.

really wants "it," and then works hard to develop and reveal previously unseen talent. Ya gotta want it, and then ya gotta do the training.

And speaking of training, this is where we depart somewhat from the Hollywood success model. The whole training-montage-as-path-to-success is a convenient storyteller's shortcut, but it's not an accurate depiction of the effort required to become great. The truth is, it's hard to excel. It takes time, a lot of time. Malcolm Gladwell's book *Outliers* suggests it takes approximately 10,000 hours to become an expert. Now, nobody has the time to sit through a 10-year movie and I for one am glad film makers compress all that rehearsal into a five-minute clip. But don't be fooled—if we really want to succeed, it ain't gonna happen right away.

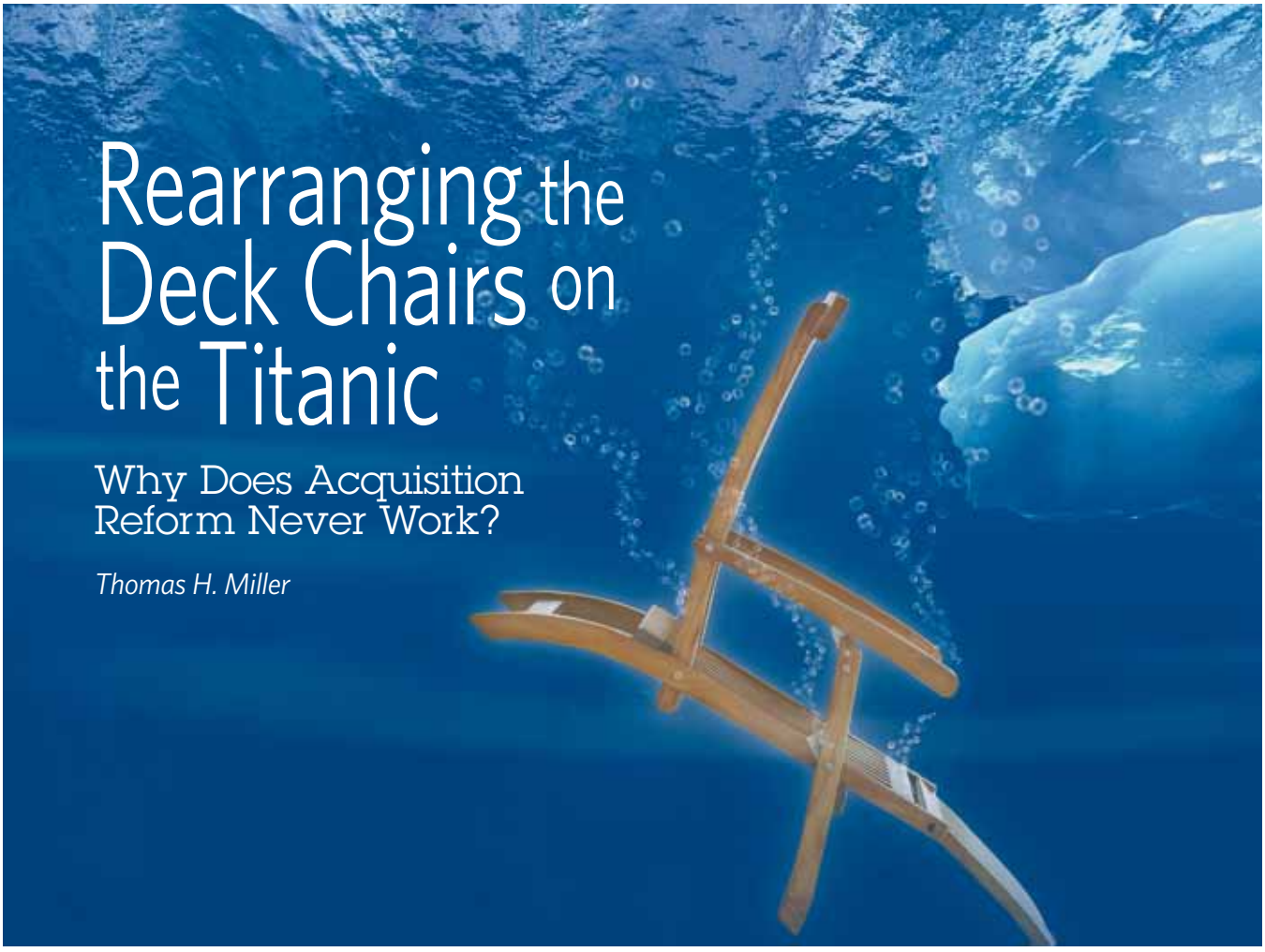
The fact that we can't become experts in five minutes notwithstanding, there is still a lesson to be learned from all these films. To paraphrase G.K. Chesterton, we don't watch Cheesy Inspirational Movies because they tell us barriers exist, but because they tell us barriers can be overcome. Sure, it's hard—but it's not impossible. And as the Crusty Old Coach tells us, the first step is to want it.

So tell me ... do ya want it, kid?

Well do ya?

ROLL CREDITS.

The author welcomes comments and questions and can be contacted at daniel.ward@pentagon.af.mil.



Rearranging the Deck Chairs on the Titanic

Why Does Acquisition Reform Never Work?

Thomas H. Miller

The Weapons Systems Acquisition Reform Act of 2009 (WSARA) makes some significant changes to the defense acquisition system. However, a House Armed Services Committee press release that accompanied signing of the legislation acknowledged that the bill covers only 20 percent of the Pentagon's buying practices. The Committee intends to introduce new acquisition reform legislation this year with the intent of saving $135 billion over five years, before the ink is even dry on the WSARA. Such legislation seems to be a rite of passage for each new administration—another attempt to wring savings out of defense acquisition by making it more efficient.

Miller *is the program manager for the U.S. Marine Corps Medium Tactical Vehicle Replacement and Logistics Vehicle System Replacement programs within the Program Executive Office for Land Systems*

There have been numerous high-level panels convened to look at ways to improve the system (the Hoover study of 1949, the Fitzhugh Commission of 1970, and the Packard Commission of 1986, just to name a few), yet we continue to see inherent overruns and delinquent schedules in defense acquisition systems.

With all of the analytical work put in over the years by highly qualified bodies of defense acquisition experts, why do none of these reform efforts seem to work? Is it even possible to improve defense acquisition and make it a highly efficient, effective system? Or are these efforts continual rearrangement of deck chairs on the Titanic acquisition system that never stops crashing into icebergs? I will attempt to answer some of these questions, based on a short historical recap and search for commonly found, recurring problems identified in previous acquisition reform efforts.

A Short History of Major Acquisition Reform Efforts

Secretary of Defense Gates has noted that over 130 studies on the subject of acquisition reform have been conducted over the last few decades "to no avail." It appears that the Secretary is being conservative in his estimate—the Business Executives for National Security group recently cited 262 relevant studies, reports, and publications just since the Goldwater-Nichols legislation of 1986. I don't intend to review all of these efforts, only provide a summary of two relatively recent major studies and legislation; but these summaries do serve to show the scope of previous acquisition reform efforts.

The Packard Commission and Goldwater-Nichols (1986)

President Reagan tasked the Packard Commission in 1986 with reducing inefficiencies in the defense acquisition system. The Commission's report stated that there was "no rational system" governing defense acquisition, and that it was not fraud and/or abuse that led to large overruns, but an "overcomplicated organization and rigid procedure." In order to address the systemic problems identified (cost growth, schedule delays, performance shortfalls), the commission recommended several regulatory and administrative initiatives: (1) that defense appropriations should be passed by the United States Congress in two-year budgets rather than annual appropriations bills; (2) the creation of a "procurement czar," to be known as the under secretary of defense for acquisition, and the creation of a clear hierarchy of acquisition executives and managers in each of the Services; (3) that theater commanders should report directly to the United States secretary of defense through the chairman of the Joint Chiefs of Staff; and (4) that the powers of the chairman of the Joint Chiefs of Staff should be strengthened. Many of the recommendations from the commission were instituted in the Goldwater-Nichols Act of 1986. Studies have shown that implementation of these reforms had no impact on program cost growth. Why? Pierre Chao, a Wall Street defense industry analyst, speculated in testimony before a House Committee that it was the result of unintended consequences, such as the "fault lines" it established between the acquisition, requirements, and budgetary processes. That, he stated, is the "primary contributor to the lack of institutional accountability in our system today." In a 1999 study, David S. Christensen, Air Force Capt. David A. Searle, and Caisse Vickery pointed out that the act did not address some significant factors of cost growth, including congressional funding changes that account for "up to one-half of the cost growth in major weapon systems."

Federal Acquisition Streamlining Act and Federal Acquisition Reform Act (FASA/FARA)

Whereas most of the prior acquisition reform legislation was negative in nature, intended to impose constraints, sanctions, and additional oversight often in reaction to bad news stories (such as the legendary $500 toilet seat), FASA and FARA (1994 and 1995 respectively) were based on principles of reducing cost and acquisition lead time by freeing acquisition professionals to use good business judgment and by providing tools commonly used in the commercial marketplace. Driven by then-vice president Gore's "Re-inventing Government" initiative, these complimentary bills emphasized efficient, timely acquisition processes and encouraged acquisition of commercially available products and technologies. Major changes included establishing streamlined rules for commercial off-the-shelf items; permitting contracting officers to limit the competitive range based on efficient competition; and allowing for limited competition after initial award of multiple-award service contracts.

These were significant process/procedural changes, and most important, they reflected a shift in approach that in theory allowed for government acquisition to operate in a more business-like fashion. Did it work? General consensus is that there were some benefits at the margins resulting from FASA/FARA, particularly in reducing process lead time for acquisition of services, but there was negligible impact on the pace or scope of cost overruns. Why? There was very little impact on major weapon system programs, as those programs require unique, developmental products and technologies that are generally nonexistent in the commercial market place. So those programs in effect continued to be governed by standard acquisition rules and processes. In addition, the concurrent push from Gore's "National Performance Review" to reduce "overhead" government personnel through outsourcing resulted in a significant loss in key knowledge areas (such as engineering and cost analysis) over the subsequent years, which may have actually increased cost overruns in these programs by reducing effective government oversight on major system contracts even as the scope and complexity of the programs increased at an exponential rate. This concern is only

now being addressed through the Obama administration's insourcing initiative.

Common Themes and Common Results

Despite being almost opposite in philosophical underpinnings, Goldwater-Nichols and FASA/FARA were intended to positively affect the same perceived systemic problems in the defense acquisition system: overcomplicated organizations and overly rigid procedures that result in continuing cost growth, schedule delays, and performance shortfalls. The best, most experienced acquisition experts of the day were consulted in each case. The majority of recommendations the study groups presented were passed in legislation by Congress. And in each case, the expected outcomes were not achieved or only marginally so; and in some cases, the law of unintended consequences resulted in negative results, such as accelerating cost overruns. Yet efforts continue today, both within Congress and the Defense Department. Will they be any more successful than their equally well-meaning predecessors?

The [Packard] Commission's report [1986] stated that there was "no rational system" governing defense acquisition, and that it was not fraud and/or abuse that led to large overruns, but an "overcomplicated organization and rigid procedure."

Why Do Acquisition Reform Efforts Never Work?

In a recent article in *Defense News* , MIT Professor Harvey Sapolsky wrote: "Let's be honest this time. Let's just skip the acquisition reform charade. The promise of reform is for rubes, those dumb taxpayers whom we want to believe, on the 85th or 86th time, we will get it right." Is he correct in his assertion that the defense acquisition system is incapable of being fixed? Linda Brandt and Francis Ahearn write that "the defense acquisition system was designed with many goals in mind, but efficiency was not one of them" (*Joint Force Quarterly*, Summer 1997).

The acquisition system is a reflection of the constitutionally based system of government within which it works. It is controlled by checks and balances, intended to allow each power base (Congress, Executive Branch, Judicial Branch, and the public itself) fair access. Congress micro-manages the system to ensure maximum dollars are spent in intended districts, seemingly without concern for impact on program stability. The Services fight each other and the administration for funding, manage highly redundant portfolios of weapon systems, and clearly incentivize performance over cost and schedule. The Defense industry is certainly not motivated to operate more efficiently, as to do so would reduce their profits and performance for shareholders. Given these challenges, is there anything that can be done to truly, measurably improve the efficiency of defense acquisition? I believe the answer is "Yes" and recommend focus in the following areas.

Better Balance of the "Three Circles"

A Government Accountability Office report of April 2009 entitled "Defense Acquisitions: Charting a Course for Lasting Reform" stated that "DoD's key processes for setting requirements, providing funding, and managing acquisition programs have institutionalized some underlying causes for persistent problems in weapon system programs." The Defense Acquisition University depicts the defense acquisition system as three interlocking circles representing the three systems that comprise it: the requirements process, which determines what to acquire; the programming and budgeting system, which determines how many to acquire; and the acquisition management system, which determines how we acquire. Yet these systems are not balanced and co-equal (recall Pierre Chao's reference to "fault lines" between them). The acquisition process is the weakest of the three, having little capability to influence requirements trades and/or budget decisions. After those decisions are made, acquisition organizations have to do their best to be successful, although such efforts are often doomed before they start. An example of this is the development program for the U.S.Marine Corps' next-generation amphibious personnel carrier, the expeditionary fighting vehicle. Requirements trades determined that the EFV should be capable of launch from amphibious ships 25 miles or more offshore; reach shore far more quickly than its predecessors; and once on land, maneuver across country with agility, mobility, and protection equal or greater than that of the M1 main battle tank. Budget trades resulted in significant funding and quantity reductions, which delayed the program and caused the unit price to more than double. What is a program office to do when dealt a hand like that (highly ambitious if not impossible requirements with unstable funding)? The current results should have been expected, given the history. What can be done? Congress

should increase the power of the acquisition establishment to influence requirements and budget trades, and to ensure that acquisition risks, such as technology maturity and affordability, are considered up front.

Change Acquisition System Disincentives to Incentives

The Services and their acquisition program professionals are incentivized by the current system to increase spending rather than to reduce cost, and to oversell the capability and underestimate the costs of their programs. Program managers who reduce cost are rewarded by funding cuts, and have little latitude to use funds freed up by cost savings to seek improvements in other areas that might benefit their warfighter customers. Those PMs who seek to declare up front that their program is unexecutable given requirements, available funding, and required schedule (often established before the PM is appointed) are considered failures. The GAO report mentioned earlier states that "the business cases are compromised to reconcile the disparate pressures imposed by the requirements and funding processes."

How do we change these perverse disincentives and replace them with incentives that reward PMs for efficient, effective performance that results in lower cost and improved performance? Rep. Robert Andrews (D-N.J.) is advocating a bill called the Improve Acquisition Act that would provide financial rewards (pay raises, bonuses, promotions, etc.) for workers who achieve program cost savings, and rewards such as increased authority for organizations that perform well. I believe that such changes—combined with the process changes discussed above that will allow (and actually encourage) PMs to effect requirements and funding trades prior to taking on a doomed, unexecutable program—will be necessary to change the culture and focus of the defense acquisition system and allow for more successful program outcomes.

Practice Portfolio Management

The GAO report states that since 2003, the total cost growth for DoD's portfolio of major defense acquisition programs is higher than it was five years prior, with 42 percent of the programs reporting a 25 percent or higher unit cost increase and an average schedule delay of 22 months. It goes on to say that this performance is driven by older, underperforming programs, 69 percent of which report cost overruns. In the DoD, when a major program underperforms, it is given more funds and time; although quantities are often cut, which, perversely, can increase the program costs on a per unit basis. Schedule extensions often significantly increase overall cost; with the minor inconvenience of a Nunn-McCurdy breach that rarely results in program cancellation. In private industry, major corporations manage a portfolio of programs and seek to maximize their total returns by identifying and cancelling underperforming programs, freeing up scarce funding for the highest return, most effectively managed programs. Although the return objectives (maximization of warfighting capability for the DoD versus maximization of profit for a private firm) are different, the basic models should be the same. DoD should seek an efficiently performing portfolio of programs that provide the greatest balance of warfighting capabilities within efficient, reasonable cost and schedule requirements. Cancelling underperforming programs earlier in the development cycle will provide incentives for all programs to report cost and schedule accurately up front, incentivize better overall performance, and allow DoD to channel funds to better performing programs.

Let's Steer the Titanic

As explained above, there are structural and political reasons why defense acquisition programs continue to experience the same problems they experienced 30 or more years ago, despite ongoing scrutiny and continual reform efforts. It is equally true, as stated by Brandt and Ahearn, that "despite persistent charges that the defense acquisition system is catastrophically broken and in need of being recreated ... this system continues to produce the world's most effective and lethal systems." But will we be able to continue doing so in the future if we follow the same ineffective processes, given economic challenges and the rise of potential near-peers such as China? All affected parties (with perhaps the exception of the defense industry) are in general agreement that changes are needed, but how do we change the system to produce the desired outcome—a more efficient system with more predictable cost and schedule outcomes—without negatively impacting our capability to effect war when required?

The first challenge is for the key players—Congress and the Executive Branch—to identify the true root cause problems, such as an unequal distribution of power and influence and systemic disincentives; and make changes that will affect them through legislation and effective implementation of that legislation. That will be difficult to achieve, given today's contentious political environment, but the alternative—continually eroding US defense capability at continually increasing cost—is adequate motivation to try.

DoD should be given full credit for their recent efforts to address the structural issues I described above, including emphasizing knowledge-based programs, ensuring demonstrated maturity of key technologies in early program phases, and renewing focus on the cost estimation process. However, more challenging work is still to be done. The DoD, the White House, and Congress should commit to balance the three defense acquisition systems, giving the acquisition management organization (particularly the defense acquisition executive) power to influence requirements and funding trades, and—working as the business agent for requirements and funding organizations—the authority to manage the overall defense program portfolio in order to maximize capabilities within available funding.

The author welcomes comments and questions and can be contacted at thomas.h.miller3@usmc.mil.

Talent *trumps* **process.**
Teamwork *trumps* **paperwork.**
Leadership *trumps* **management.**
Trust *trumps* **oversight.**

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MANIFESTO

Lt. Col. Dan Ward, USAF

Fixed funding & floating requirements are better than fixed requirements & floating funding.

An optimal failure costs a little and teaches a lot. When FIST projects fail, they fail optimally.

10

This approach is called

FIST

Fast, Inexpensive, Simple, Tiny.

3

Delivering useful capabilities is the only measure of success.

8

To keep timelines short, projects must exercise restraint over
budgets
complexity and
size.

Increases to the project's budget, complexity or size inevitably reduce its speed.

5

Instructions: cut along dotted lines, fold on solid lines, put pages in order and staple in middle to assemble a handy little booklet

System development projects should be done by:

small teams of talented people using short schedules small budgets and mature technologies.

2

Complexity is a cost. Complexity reduces reliability. Simplicity scales. Complexity doesn't.

Iteration drives learning, discovery and efficiency. FIST is iterative.

11

Short timelines help stabilize:
requirements
technology
budgets and
people.

Short timelines also foster **accountability, ownership and learning**.

4

FIST Principles

A project leader's influence is inversely proportional to the project's budget and schedule

Constraints foster creativity.

9

To Implement FIST:

Minimize team size, maximize team talent.

Use schedules and budgets to constrain the design.

Insist on simplicity in organizations, processes and technologies.

6

Incentivize and reward under-runs.

Requirements must be achievable within short time horizons.

Designs must only include mature technologies.

Documents and meetings: have as many as necessary, as few as possible.

7

Instructions: cut along dotted lines, fold on solid lines, put pages in order and staple in middle to assemble a handy little booklet

Be Consistent ... But Flexible

Wayne Turk

I am a golfer. No, let me correct that: I play golf. To be a golfer, a good golfer, you have to be consistent. You have to be able to duplicate the same swing over and over. But there are situations where the same swing just will not work, and a good golfer can change his swing at those times. If you are under a tree, behind an obstacle, or in deep rough, for example, you have to be flexible and modify that consistent swing into a different swing. I know that because frequently I am in those places. Of course I ended up there because I wasn't consistent in the first place.

Turk *is an independent management consultant. A retired Air Force lieutenant colonel and defense contractor, and the author of* Common Sense Project Management *(ASQ Press, 2008), he is a frequent contributor to* Defense AT&L.

Being a good manager is like being a good golfer. You have to be consistent the majority of the time, but you have to be flexible enough to do things differently in certain situations. Consistency doesn't mean being robotic. Let's cover some of the ways that you need to be consistent. These are not in order of priority because all of them are important.

Consistent Communications

Let's start with communications. As a manager, your prime responsibility is to get things accomplished, and you do that through people. Communication is, therefore, one of your most important management tools. Giving employees the facts honestly and listening sincerely are the biggest requirements. It is probably true that an employee's determination that you have given him all of the available information is more important than any specific information you can give him. Don't tell employees only what they have to know (or what management thinks they should know); let them in on everything that you can. There may be limits, but share all that you can.

On the other side of the communication partnership, you have to listen with true sincerity and interest to what your employees have to say. It builds trust and you may learn something. Show your employees they have your full attention and that you respect what they have to say.

Consistent Policies

Policies provide guidance for the fair and consistent treatment of your people. They should be written and available for everyone so that all employees (and managers) know what is expected, how to react in certain situations, and what the rules are. Policies may be as simple as a dress code or the preferred way to answer the phone, or as complex as overall human resources policies. Policies are best as guidelines rather than rigid and unchangeable rules, but we will get into flexibility more later.

Policies cross over into the external world, too. How to treat customers is one that is very critical. Contracting and vendor relations policies are important, too. The list could go on and on.

Policies may—no, will—change over time. As circumstances change (the economy, for example), as the organization changes or grows, as the mission changes, or as products evolve, organizational policies have to change, too. That isn't part of managerial flexibility; that is part of growth and change.

Consistent Processes

Using good, strong, repeatable processes is critical in project management and fairly important in any management situation. Processes can make the pieces of the puzzle fit together easily. Knowing that things are done the same way every time gives both employees and customers confidence that nothing is missed and that they can count on the result, whether that's a document, an action, a service, or a product.

Most organizations have many internal processes that are excellent. But be on the lookout for new processes or improvements that you can make on your existing ones. Look at other public and private sector entities for ideas, standards, concepts, systems, benchmarks, and processes. For the government, the Government Accountability Office is a great source of information on government best practices. There is no central repository for best practices for companies, but there are many sources, including the Internet, classes, conferences, seminars, books, articles, and so on. Don't reinvent when you can leverage on previously developed and proven work. Which processes you review and use will depend upon your duties and the organization.

Processes are a good thing, but they aren't the end all and be all for a manager. Processes are built from what has happened before and not necessarily from what is happening now. There is always the unexpected and the unplanned, providing opportunity for creativity and flexibility. Innovation and original thinking will be needed at some point in your management career. For most managers, it will be many more times than once.

Consistent Standards

A standard can be defined as the minimum acceptable level of performance. And the key word is minimum. By no means does this imply that any organization or manager should set low standards of performance. Set high performance standards that are challenging, but attainable and reasonable. Written standards are best.

As a manager, you have to set or enforce standards. Too much of a manager's time can be spent correcting behaviors that they never told their people were unacceptable in the first place. Setting the standards you want your employees to follow is the first step. It certainly doesn't hurt to bring some of your people into the standard setting process or at least get their input. Then ensure that everyone understands what the standards are. Monitor the standards that you expect your people to meet. This may mean metrics (measures of compliance or success) or it may mean just watching. Finally, if the standards aren't being met, it means correcting the problem with feedback, clarification, instruction, or even discipline.

When a standard is not being met, give the employee specific feedback on how it is being missed and how this hurts him or her and the organization. If the conversation has occurred before, you'll need to warn of the consequences of another failure to meet the standard (disciplinary action, loss of job, or other real consequences). Provide coaching and an action plan to help the employee meet the standards. The plan should include measurable results the employee must achieve. One good tactic is to require him to monitor

Being a good manager is like being a good golfer. You have to be consistent the majority of the time, but you have to be flexible enough to do things differently in certain situations.

his own performance with checklists and records, and bring them to the supervisor at regularly scheduled meetings to report on progress. Consistency is the target. Anything less should be grounds for termination. Employees who constantly have to be monitored and supervised are a drain on the organization.

Consistent Discipline

Most managers, at some time, will have to discipline employees. When employee discipline is done properly, it doesn't have to result in hurt feelings or resentment. When it's done poorly, it's often seen as unfair, and can actually cause more poor performance.

The manager who looks at discipline strictly as a punishment tends to apply negative sanctions, expecting those negative sanctions to have a positive effect. Sometimes it works, but frequently it doesn't. You need to consider discipline as an opportunity for the employee to learn. Work with her, but don't be afraid to apply the negative sanctions if the problem continues. The final punishment is firing. Don't be afraid of firing someone, but it is the last resort. Sometimes, especially with government employees, the firing process can require a lot of time, effort, and paperwork. Document everything, and don't hesitate if termination is the right move.

Be fair and equitable in how you apply your discipline. If you don't, you will be seen as showing—and you will be showing—favoritism. If you dock one person's pay for being late, that has to be your "standard" discipline for everyone. Rarely should you discipline someone for a first offense unless it is egregious, but you do have to acknowledge the infraction to the employee, provide explanation of your expectations. The fairest disciplinary systems act on accumulated rule infractions rather than single acts. To remind employees of the seriousness of breaking the rules, keep a written record of all infractions, including verbal warnings or discussions about rule infractions.

Consistent Evaluations

Evaluations have a number of primary and secondary functions. One primary function is to identify what the employee has done over the past evaluation period (a year in most organizations) so that the he has constructive and positive feedback. Another is to identify strengths and weaknesses. That helps the employee build upon his strengths and shore up the weak areas. Evaluations are also used to determine monetary rewards (pay hikes and bonuses) and to identify employees with the potential to fill higher positions in the organization.

Where the consistency is important is in how you, as the manager, rate your people. There should be written criteria with specific goals and objectives against which the person's performance is evaluated (sounds familiar, doesn't it). While the criteria for rating individuals may be different because they have different duties and, thus, different goals, the objective way that you measure them against those goals should be the same for everyone. Again, you have to be fair and equitable. That doesn't mean recommending the same bonus for all your people. It means being totally objective. It means discussing the evaluation with each individual and getting their thoughts and feedback. It means being honest. And it means no favorites.

Consistent Treatment

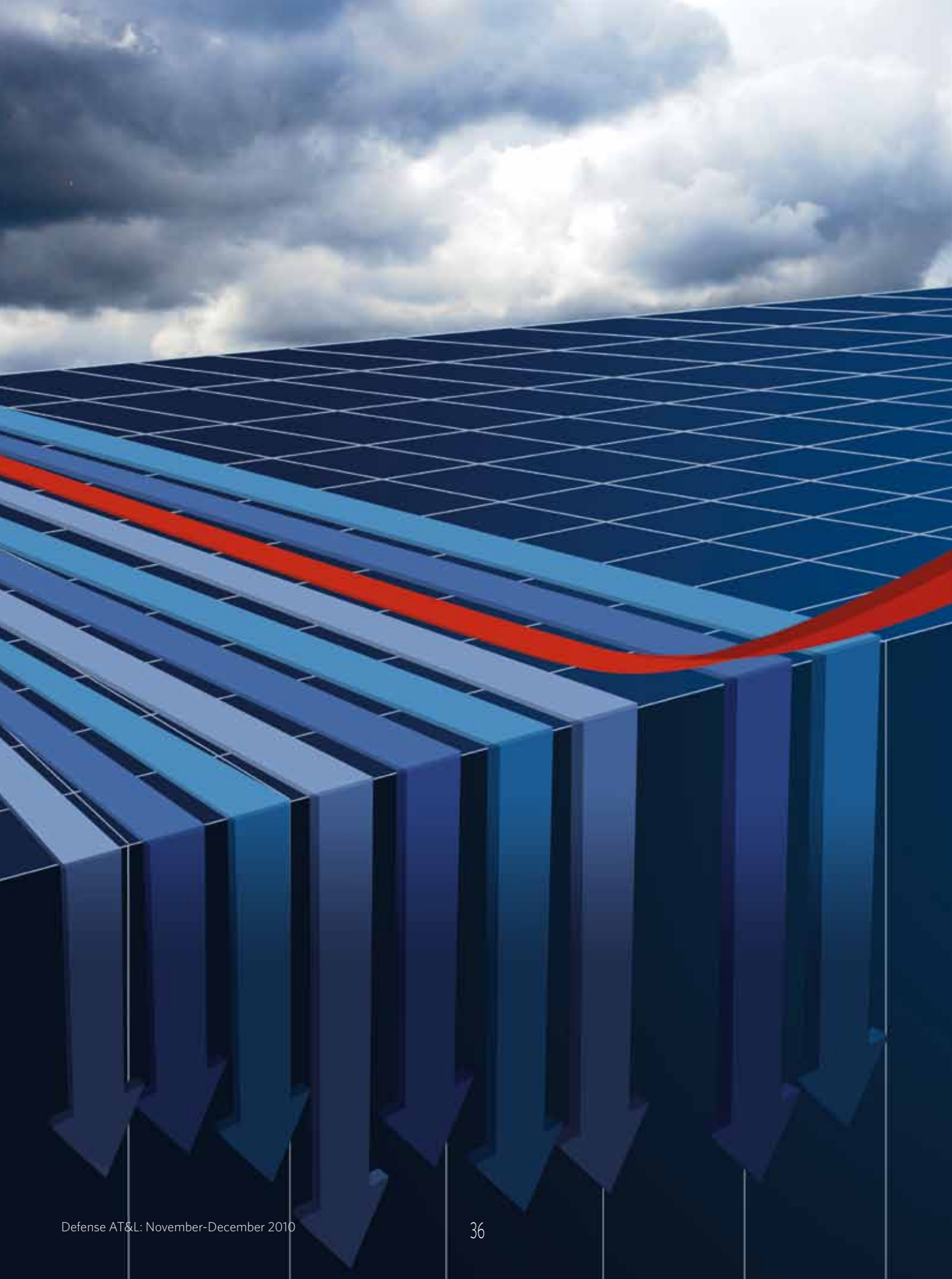
Treat your people fairly, with respect, and treat them equitably. At the same time, treat them as individuals, which means possibly using different motivations or motivational techniques, setting different individual goals, and communicating with each in the way that works best. These are not inconsistent or contradictory guidelines. As long as you treat everyone fairly, showing no favoritism, you are doing the right thing. Act with respect to each. Acknowledge their individuality. Reward and recognize the good ones. Counsel, train and motivate the less-than-good workers to bring them up to standards. Don't denigrate or ridicule any of them. Be flexible, but fair.

But at the End of it All: Flexibility

Today when someone brings up flexibility in the workplace, it is usually about flexible work schedules (flextime), telecommuting, or work/life balance. Those are important topics, but the flexibility I'm talking about is the ability to be creative, innovative, and adaptable in your responses to people and problems in the workplace. It is finding the right way to work with, manage, motivate, and inspire each of your people. It is surviving—and helping your employees survive—in an ever-changing world and an evolving business environment.

Going back to my original golfer analogy, you have to find the right swing, the right shot, for each situation and you have to perform it consistently. And like a golfer, sometimes it's not going to work and you will end up having to try a different swing to get out of the rough.

The author welcomes comments and questions and can be contacted at rwturk@aol.com.



Replacing Risk with Knowledge to Deliver Better Acquisition Outcomes

William S. Kaplan

The acquisition workforce isn't what it used to be. Challenges in program execution remain and likely always will, and the Congress and Department of Defense are taking steps to reform the defense acquisition system ... again. According to a May 2010 Government Accountability Office report (GAO Report 1-522):

Kaplan, *a retired U.S. Air Force colonel, has 38 years of federal acquisition experience and is the founder of Working Knowledge*^{CSP}*, a knowledge management consulting company. He is level III DAWIA certified in program management and contracting.*

Congress and DOD have taken major steps toward reforming the defense acquisition system that may increase the likelihood weapon programs succeed in meeting their planned cost and schedule objectives. Many of these steps are consistent with key elements in our case study analysis. In particular, the new DOD policy and legislative provisions place greater emphasis on front-end planning and establishing sound business cases for starting programs. For example, the provisions strengthen systems engineering and cost estimating, and require early milestone reviews, prototyping, and preliminary designs. They are intended to enable programs to refine a weapon system concept and make cost, schedule, and performance trade-offs before significant commitments are made. Fundamentally, the provisions should help programs replace risk with knowledge, and set up more executable programs.

The GAO report referenced is about planning and execution of core acquisition processes and the training that supports that execution. An underlying theme in the report is the need for and the ability of the acquisition leadership and workforce to leverage critical and relevant knowledge about acquisition more effectively—in other words, to capture and document project planning and execution lessons and best practices for access and reuse. This ability, or lack of it, is a fundamental challenge that consistently marginalizes the more successful planning and execution of our programs.

More Challenges, More Complexity

Acquisition and the environment in which we do acquisition are necessarily complex. Add to that, increasing issues in process execution and the quality of the execution; and fewer acquisition professionals who are adequately trained, thus increasing the risk in our ability to more successfully plan and manage to expected program outcomes. Recent hire authority for thousands of acquisition positions now and over the next few years presents an additional training (skill) and experience (competency) challenge in the current complex acquisition environment. Consider the following issues as well.

- Acquisition programs and activities can be, and usually are, diverse and organizationally dispersed. They may be supported by a centralized acquisition staff with functional acquisition support directorates that have been depleted through attrition or who lack the tools, training, and experience.

- All acquisition is not the same. Many acquisition processes require an adaptation of core processes, execution, and training that must be integrated into the management of the programs on a continuing and real-time basis.

- The training and continued growth of the core skills necessary for program planning, execution, and management within the acquisition workforce could be more effective. The gradual decrease in functional expertise and program management discipline over the past decade has resulted in greater difficulty in controlling desired acquisition outcomes.

- Existing training needs to focus not only on concept and theory, but also must be tailored to application and implementing practices in the specific organization's context.

- Learning lessons focused on the execution of core acquisition processes across an organization could significantly improve acquisition outcomes. Many acquisition organizations do not currently demonstrate a collective ability to learn lessons or to transfer better practices and then to reinvest the learning into acquisition planning, program planning, and program execution processes.

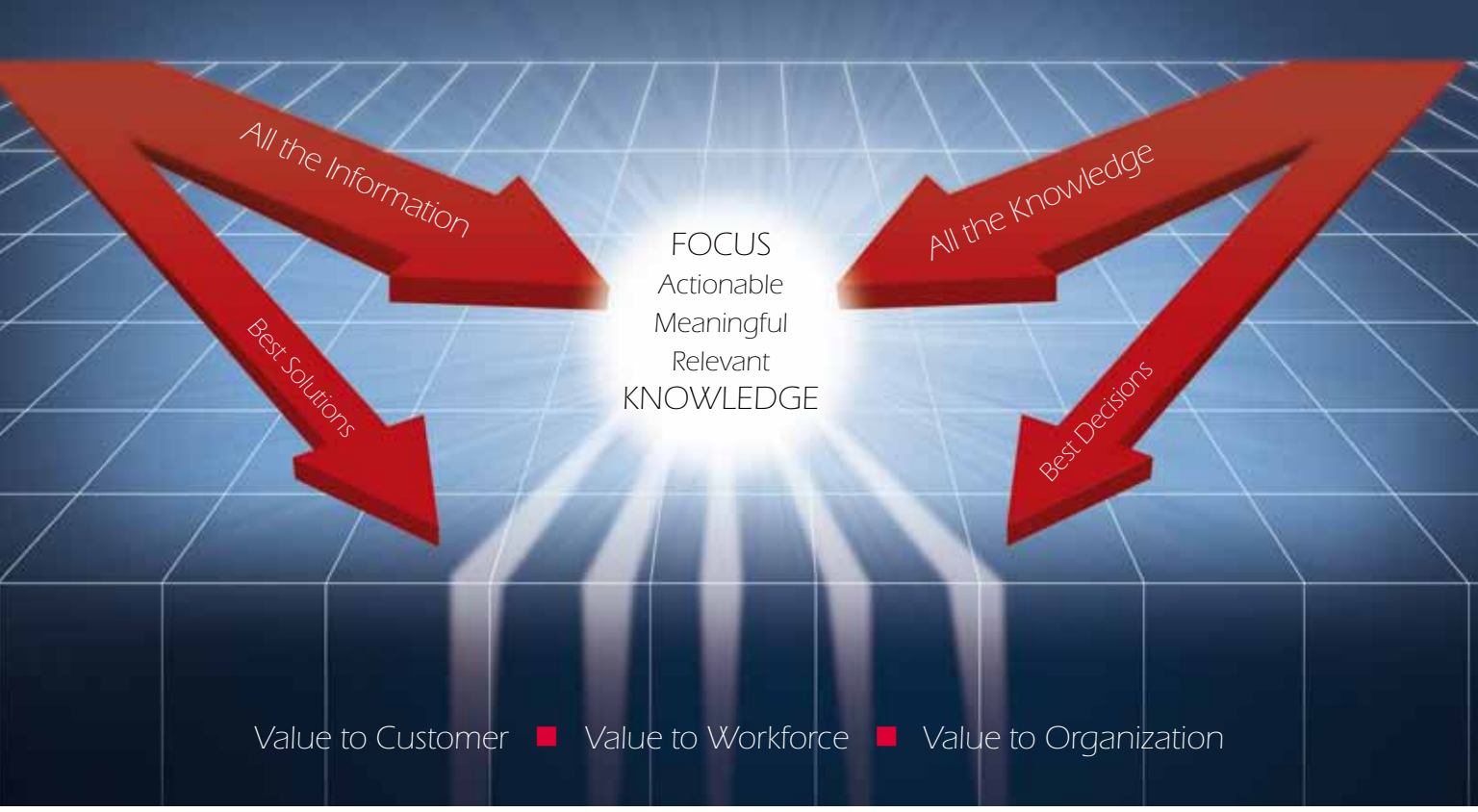
- Learning from the execution of core processes must be consistently leveraged so that improvement in a core process also simultaneously changes training on the process. Any change in process requires that the training reflect how the process, once improved or changed, is being executed so that the next graduates will be trained based on the most current field experience.

From a performing and learning perspective, these issues will continue to present program execution risk because across the acquisition environment we generally lack a consistent and disciplined process for capturing, adapting, transferring, and reusing the acquisition workforce's critical and relevant knowledge of what it does as an integrated part of the way it does business. The result: a lost opportunity to quickly make sense out of the lessons so they can be characterized for reuse in a way that makes them readily accessible and easily searchable by others in the organization or across the acquisition domain.

Look at the issues in a slightly different way by asking yourself the following questions:

How often does my acquisition organization plan the time to (1) reflect as a team (not a lessons-learned checklist or report) on our program or core acquisition process execution; then (2) take the time to make sense out of the experience and insight that is captured; and (3) take the time to make immediate changes in how we execute the program or process based on this current experience and insight?

How often does my organization then integrate those learnings into relevant and context-based training that supports new professionals in the program or process so that when the training is complete, the graduates have been trained



The Capture, Retention, and Reuse of Knowledge

in the way that the work is actually being done in my organization?

Knowledge and Its Capture, Retention, and Reuse

Let's talk about one view of what knowledge is. Consider that knowledge includes all the information, experience, and insight that exist across the organization. We want to leverage and focus that knowledge, in context, not only to improve individual, team, and organization performance; but also to deliver value to customers and the workforce, and to drive the right mission outcomes. That enables the acquisition workforce to make the best acquisition decisions and develop the best acquisition solutions.

What is "critical knowledge?" It is knowledge (information + experience) that is necessary and fundamental to achieving the desired mission outcome. Critical knowledge, in an acquisition context, is not only knowledge that is codified (explicit), but also knowledge that resides in people's heads—the experience and insight (tacit), that enable the acquisition workforce to apply the core acquisition processes effectively and efficiently to achieve the desired mission outcomes.

Any discussion of critical knowledge must move beyond what is written down to encompass also what is understood, the "know-what "and "know-how." That means it can't initially be used by anyone other than the individual who possesses it. Critical but not reusable = ineffective and inefficient.

It is comparatively easy to leverage information (visible, codified) that is critical and relevant; it is much harder to get at and leverage the experience and insight (hidden, personal) in someone's head that is also critical.

In many organizations, much time and many resources are focused on the information side of knowledge alone. That is where enabling technology and applications can provide the necessary mechanism to find and access the codified knowledge. But technology alone cannot capture what's in a person's head, make sense out of it, and then characterize it, in the right context, for reuse. It becomes really critical and a huge challenge for any organization because that type of knowledge is necessarily timely and perishable, especially with the regular turnover in the acquisition workforce. Without a consistent and disciplined process for capturing, retaining, and transferring this knowledge, we lose the ability to reuse it, along with much of the investment in training, experience, and insight that takes so long to develop. There's a real cost, and it's high!

All Source Acquisition: Part of the Solution

One answer to the knowledge capture, retention, and reuse challenges facing acquisition organizations is the concept I call "all source acquisition." All source acquisition is grounded in the disciplined adoption of a systematic framework to capture, adapt, transfer, and reuse an acquisition organization's critical and relevant knowledge (information + experience) to measurably improve operational performance. It also enables a working capability for an acquisition organization (e.g., system program office, program manage-

Critical Attributes for Learning Organization Success

- Developing a knowledge-driven enterprise learning strategy
- Developing collaboration/partnerships for accelerated learning
- Developing and/or acquiring learning methodologies, tools and techniques
- Converting individual tacit into enterprise explicit knowledge
- Developing communities of practice
- Learning before, during, and after execution
- Coaching and mentoring
- Developing an organizational learning infrastructure (e.g., enabling technology for the internal and external exchange of learning experiences).

ment, contracting, program control, etc.) to think creatively, aggressively collaborate, consider different perspectives, and challenge assumptions as a part of the way it works.

All source acquisition can enable an acquisition workforce to achieve greater value in mission outcomes through leveraging their individual and collective knowledge in ongoing operations: to immediately improve mission performance; to improve both the leadership's and the workforce's ability to learn from past challenges and successes in program decision making and mission execution; to align process, execution, and training so that the most current experience and expertise is immediately integrated into core process execution and the training to support these processes; to create long-term value from knowledge held not only by the acquisition workforce and its leadership, but also by those served by that workforce and its leadership; and to mitigate and manage the risk of knowledge loss and retention as a result of the increasing challenges of workforce turnover and attrition.

Acquisition organizations (or any organization for that matter) that choose to make performing and learning part of the way they operate will be able to both share and access for reuse the necessary knowledge (information + experience), whether online or from people, when they need it for the intended purpose. They are learning organizations and possess critical attributes for success (see the sidebar).

The Acquisition Center of Excellence

All source acquisition can be most successful through (1) evolving an acquisition center of excellence (ACE) as a trusted source for innovative acquisition and performance solutions, and (2) integrating the ACE with a linked training or university capability or organization. Driving knowledge at the point of execution, the ACE would collaborate with the operational areas to provide fit-for-purpose acquisition tools and techniques, competent and relevant acquisition expertise, the right training, and practice-based knowledge management to assess, guide, and implement acquisition knowledge-based improvements that directly support an acquisition organization's mission outcomes. The ACE concept envisions both a physical and a virtual ACE presence enabling 24-hour, 365-day support.

Demonstrating the value of an ACE can be difficult because operational components of organizations may not recognize how the ACE can help to improve the quality of mission outcomes, particularly if the ACE is not playing a central supporting and enabling role in leveraging acquisition knowledge. The value of the ACE is derived from working with line organizations to help them capture, adapt, transfer, and reuse relevant and critical knowledge in the areas of policy, core processes, training, lessons learned, and better practice transfer. For example, the ACE can enable the line organizations to stay ahead of acquisition policy changes so that their implementing processes and practices can be quickly and easily adapted consistent with any new policy implementation. The result can be an ACE that provides specific, relevant, and integrated core process support in the following areas:

Acquisition skills and competencies, which include knowledge and experience available on demand within the ACE with reach-back to deep subject matter expertise in all areas of acquisition; collaboration and integration with an "acquisition university" or training function to provide learning at the point of need to the operational areas on a broad range of acquisition subjects and disciplines; creating and deploying consistent and disciplined knowledge management processes to mitigate the risk of knowledge loss resulting from workforce attrition and the subsequent loss of the investment already made in developing new processes and practices as well as mastering existing ones; and establishing a knowledge base that is relevant, current, and based on experience and insight about core process execution that is readily accessible to both novice and experienced acquisition practitioners, enabling everyone to become more capable, more quickly.

Acquisition tools and methods, which include an online capability (virtual ACE) that is the virtual representation of the acquisition center of excellence enabling users, from their desktops, to access, find and apply the latest policy guidance, management directives, expert knowledge, leading practices, learned lessons, tools, templates, and checklists specific to their organization's in-context acquisition and core processes to achieve consistency in both policy and process understanding and execution across operational areas.

Fast learning processes, which include three processes for "learning before, learning during, and learning after" execution that are taught and used across the program offices and enable an acquisition organization to leverage knowledge in ongoing operations to immediately improve performance; to improve the program office's ability to learn from past challenges and successes in developing and managing their programs; and to create long-term value from reusing knowledge, experience, and insight held by the acquisition workforce and its contractors.

Collaboration: The Whole is Greater Than the Sum of its Parts

All source acquisition, when planned and implemented as a collaboration opportunity between the ACE and the acquisition (program) offices, could yield extraordinary benefit in managing to better acquisition outcomes. While incremental improvements may be achieved by focusing on one capability, the real long-term benefit and value can be derived from the synergy of enabling a collaborative ACE/acquisition office relationship in all three areas: acquisition skills and competencies, acquisition tools and methods, and learning processes.

Acquisition organizations that are willing to invest in the creation and sustainment of an effective Acquisition Center of Excellence can achieve the following kinds of results:

- Adaptation of critical and relevant knowledge (information + experience) around major systems acquisition and services acquisition, in context, across an acquisition organization
- Ongoing ability to mitigate the risk of knowledge loss (accumulated acquisition skills, practical knowledge, and accumulated training) resulting from workforce turnover
- Consistent application of a systematic and disciplined approach to capturing and leveraging knowledge for reuse that focuses on knowledge at the point of execution to assure successful mission outcomes
- Learning lessons as a fundamental part of the acquisition planning and execution cycle while aligning process, execution, and training to ensure that the most current field knowledge is integrated into process execution and training and aligned with execution
- Consistent ability to find and apply acquisition knowledge that is needed when it is needed for the intended purpose
- Improved understanding of the function and value an ACE provides the program offices and the "business of acquisition."

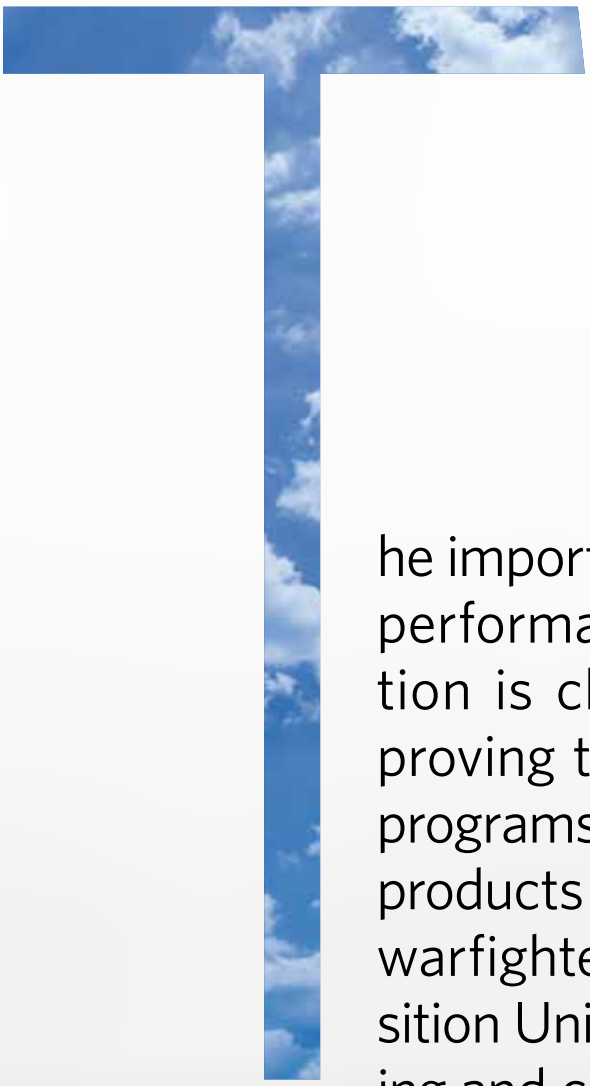
In the end, it's about effectively and consistently replacing risk with knowledge!

The author welcomes comments and questions and can be contacted at bill@workingknowledge-csp.com.

Becoming an Executive Coach

Executive Coaching of a Major Defense Acquisition Program Leader

Lois Harper



he importance of leadership to the performance of defense acquisition is clear. Committed to improving the results of acquisition programs—the quality and cost of products and services delivered to warfighters—the Defense Acquisition University initiated the training and certification of a small, select group of faculty as executive coaches. I had the privilege of being selected to be trained and prove

Harper *is a 2005 distinguished graduate of the Industrial College of the Armed Forces and is level III certified in program management. She is also level II certified in IT and SPRDE. She is currently the director of major defense acquisition program engagement at DAU, West Region.*

myself as one of DAU's few executive coaches. It has been an incredible journey of learning, growth and contribution.

DAU Executive Coaching Flight School

When I was selected, I asked myself, "What made me an ideal candidate to participate in this initiative?" Mentoring was a familiar concept, but what was the difference in skill sets between that and coaching? What did it mean to be an executive coach? Many other questions surfaced. In my experience, mentoring was rather straightforward and well-defined. It encompassed career progression. The mentor and protégée usually worked in the same line of business. Strangely enough, I quickly learned that an executive coach is not required to have direct experience in the coachee's occupational role. Executive coaching is also more formal than mentoring and concentrates on specific developmental areas. Its intent is to produce a dramatic impact on entire organizations.

Fundamentally, coaching would allow me to participate in dynamic acquisition organizations. I could have a pivotal role in their continuous improvement efforts. It would also allow me to work closely with an organization's most senior leaders and perhaps permit them to go beyond what even they thought was possible. I quickly realized the impact I could really make.

An executive coaching relationship embodies many different facets, among them, thinking partner, confidant, sounding board, strategist, and conscience.

Like the other members of my executive coaching cohort, I committed to apply whatever energy and time was needed for self-study; to participate in workshops conducted by experienced executive coaches; to coach at least one and preferably two acquisition, technology, and logistics enterprise executives; to receive one-on-one mentoring by executive coaches; and to participate in a process to assess my competency and impact as an executive coach after 9 to 12 months.

During the first workshop, Dave Fitch, the champion of the DAU certification program and director, DAU Leadership Center of Excellence, compared it to military flight training—a rigorous selection process, ground school (workshops), simulator flights (mentoring conversations), actual flying (frequent coaching conversations with coachees), and flight checks (the impact assessment).

Coaching Is About Results

Among many distinctions between DAU's executive coaching and other executive coaching approaches is DAU's focus on helping our coachees produce extraordinary results and legacies. It is in the process of producing results that our coachees expand and deepen their leadership skills—but the first focus is business results. Executive coaching provides a relationship where leaders can candidly discuss and explore the challenges that confront them, who they are now, who they would like to be in a leadership capacity, and how they will get there. DAU's executive coaching and executive coaching conversations are based upon the premise that leaders need to transform themselves if they are going to have any hope of transforming the performance of their organizations. Leadership is about who you are, not what you say or hope to portray.

Each member of DAU's executive coaching cohort was required to enroll two acquisition leaders as coachees—preferably program managers, program executive officers, organizational commanders, or their deputies. For many of us in the cohort, enrollment of coachees was relatively easy. We had only to mention that we were involved in DAU's executive coaching program to have executive volunteers. Among the leaders coached in the pilot program were general officers, an admiral, members of the Senior Executive Service, and numerous O-6s and GM-15s. Every Service was represented. One of my coachees was Chris Miller, program executive officer for command, control, communications, computers and intelligence (PEO C4I). Miller's experience includes military, industry, and federal civilian service. As PEO C4I, he is responsible for a portfolio of approximately 135 programs and projects, including major defense acquisition programs and major automated information systems.

An executive coaching relationship embodies many different facets, among them, thinking partner, confidant, sounding board, strategist, and conscience. As an executive coach, you are committed to your clients, their aspirations, and their drive for success and personal growth. At the start of our coaching relationship, Miller and I signed a formal agreement that listed our expectations of each other. During our coaching, our expectations grew as we experienced first-

hand the value of the relationship to achieving the mission and goals of PEO C4I.

Among the expectations and commitments Miller and I made to each other was to have a series of conversations, some conducted face to face, on a monthly basis; and coaching phone calls as frequently as weekly. Although I was committed, I was unsure that Miller could make the same level of commitment. He had an incredibly busy schedule. That and other questions kept surfacing. How would I know if we had a firm foundation for an optimal coaching relationship? Even though it takes a few sessions to determine, the schedule can be an early sign. If the coachee sticks to a coaching schedule, then the coachee might just believe coaching has merit and be willing to take the time to work on something transformational while still conducting the duties of his or her day job. Miller did just that and increased the frequency of our meetings to twice a month to ensure the momentum gained from our sessions was not lost.

We agreed that I would conduct a 360-degree assessment for Miller with the aim of soliciting feedback that could help him achieve the next level of his leadership effectiveness. We also agreed to create a source document to clearly articulate his vision and goals for PEO C4I, as well as the imperative for his vision.

Not Your Typical 360

Instead of using a standardized, Web-based 360-degree assessment tool, DAU's approach is to conduct personal interviews (face to face or over the phone) with the individuals identified by their coachees. They included supervisors, peers, subordinates, and stakeholders. I asked the same set of questions, but I was permitted to probe further on certain responses and elicit specific examples of some of the behaviors observed. Another major difference is the request to the individuals being interviewed to have their responses to questions and all other aspects of the interview attributable—even verbatim. While I said that I would accept feedback even with the stipulation that it would be non-attributable, everyone I interviewed—political appointees, other flag officers, Senior Executive Service members, and Miller's subordinates—was willing to be on the record.

I learned that interviews facilitate the identification of themes of strengths and areas to be addressed if the leader wants to achieve his or her next level. I learned that attributable feedback gathered by personal interviews has a level of focus and impact that is far greater than feedback that is non-attributable. Attributable feedback is powerful.

In the series of meetings I had with Miller to review and interpret his feedback, he and I noted three distinct phases: reaction, reflection, and action. The fact that we planned to cover the feedback in a series of meetings gave Miller time to let the feedback sink in (and to react as the feedback was given); time to reflect (probably the most difficult and time consuming to coach); and time to identify his own interpretations and the actions he wanted to take. As a next step, Miller and I presented the unvarnished feedback, the visible themes, and his plan to address the feedback to his direct reports. This was not part of the formal coaching process, but Miller wanted his team to understand the executive coaching methodology, what the return on investment was expected to be, and how he would be accountable to his executive coach.

The Value of a Source Document

Following an example provided to me in training, Miller and I collaborated on a PEO C4I source document—Miller's "transformation manifesto." Not to be confused with the sort of comprehensive strategic plans we are taught to build, Miller decided that his source document would be a preamble to the PEO C4I Strategic Plan. He wanted his source document to stand on its own as a concise and inspiring message to his entire workforce. To make the document impactful, he gathered data from internal and external stakeholders. Much of it was as follow-on to the 360-degree feedback he had received. Then he developed the core document. I was a sounding board and thinking partner during the process. After soliciting feedback from key staff personnel, program managers, and other stakeholders, Miller made a final revision and published it for all to see and understand, and as a basis for personal action and accountability.

Tangible and Intangible Benefits

In January 2010, I earned certification as an executive coach. Miller cited a myriad of benefits he received from coaching. The same was true for the other coachees who participated in the DAU executive coaching process.

In addition to the feedback gathered during the assessment process for certification, an independent study of the return on investment of the pilot program was conducted recently. The tangible and intangible benefits reported by the coachees were strategic: increased customer satisfaction, increased resources, increased workgroup productivity, reduced cycle time, increased organizational efficiency, increased personal productivity, improved ability to deal with and mentor employees, more effective stakeholder management, more effective time management, greater ability to solicit and get advice and ideas from seniors, and overall leadership skills improvement.

The Challenges of Coaching

Do I think there are challenges to executive coaching? Absolutely. Time constraints predominate. Wedging executive coaching into an executive's day job is extremely challenging. Some of the key tasks a coachee agrees to implement as part of the executive coaching plan may compete with programmatic tasks for which he or she is responsible. Determining what action and calendar items make a true difference in realizing the organization's vision should not be too difficult. The executive coaching cohort had several tools that

SECTION 3685, TITLE 39, U.S.C. SHOWING OWNERSHIP, MANAGEMENT, AND CIRCULATION

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Executive coaching is more formal than mentoring and concentrates on specific developmental areas. Its intent is to produce a dramatic impact on entire organizations.

would successfully facilitate that. The more daunting challenge comes with changing an executive's daily routine. It represents more of a paradigm shift.

What I Learned

It's not just about the coachee. Executive coaching has transformed me as well. I learned that an executive coach can have an incredibly positive impact, and that the investment of time and other resources involved in executive coaching is outweighed by the benefits and results. I overcame initial doubts about my capacity to coach senior executives. I learned how to ask questions, particularly thought-provoking questions, in a way that allowed my coachees to see themselves objectively and to discover their own solutions. I discovered the coachee (not the coach) is masterfully equipped to come up with the best solutions. I learned how to be a better listener, sometimes, hearing beyond the words. I developed increased strategic perspective. Finally, I established coaching relationships that I will value the rest of my life and which may be my most valuable contribution to the acquisition workforce I serve.

The author would like to thank Dave Fitch, director, DAU Leadership Center of Excellence, for his assistance with this article.

The author welcomes comments and questions and can be contacted at lois.harper@dau.mil.

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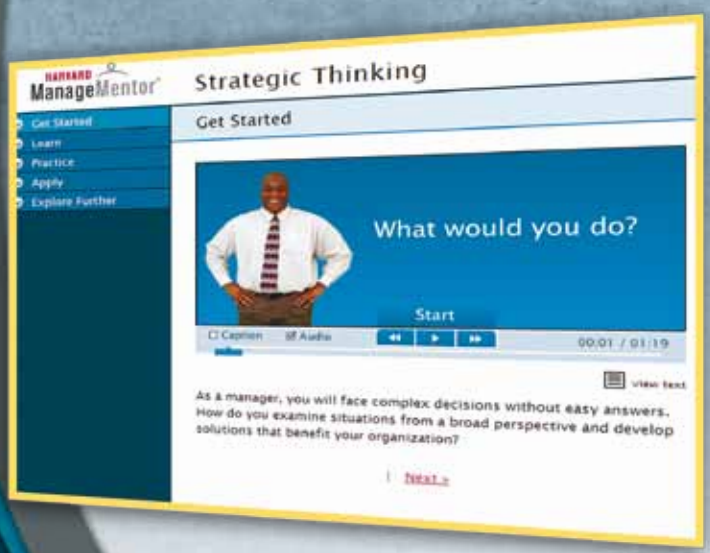

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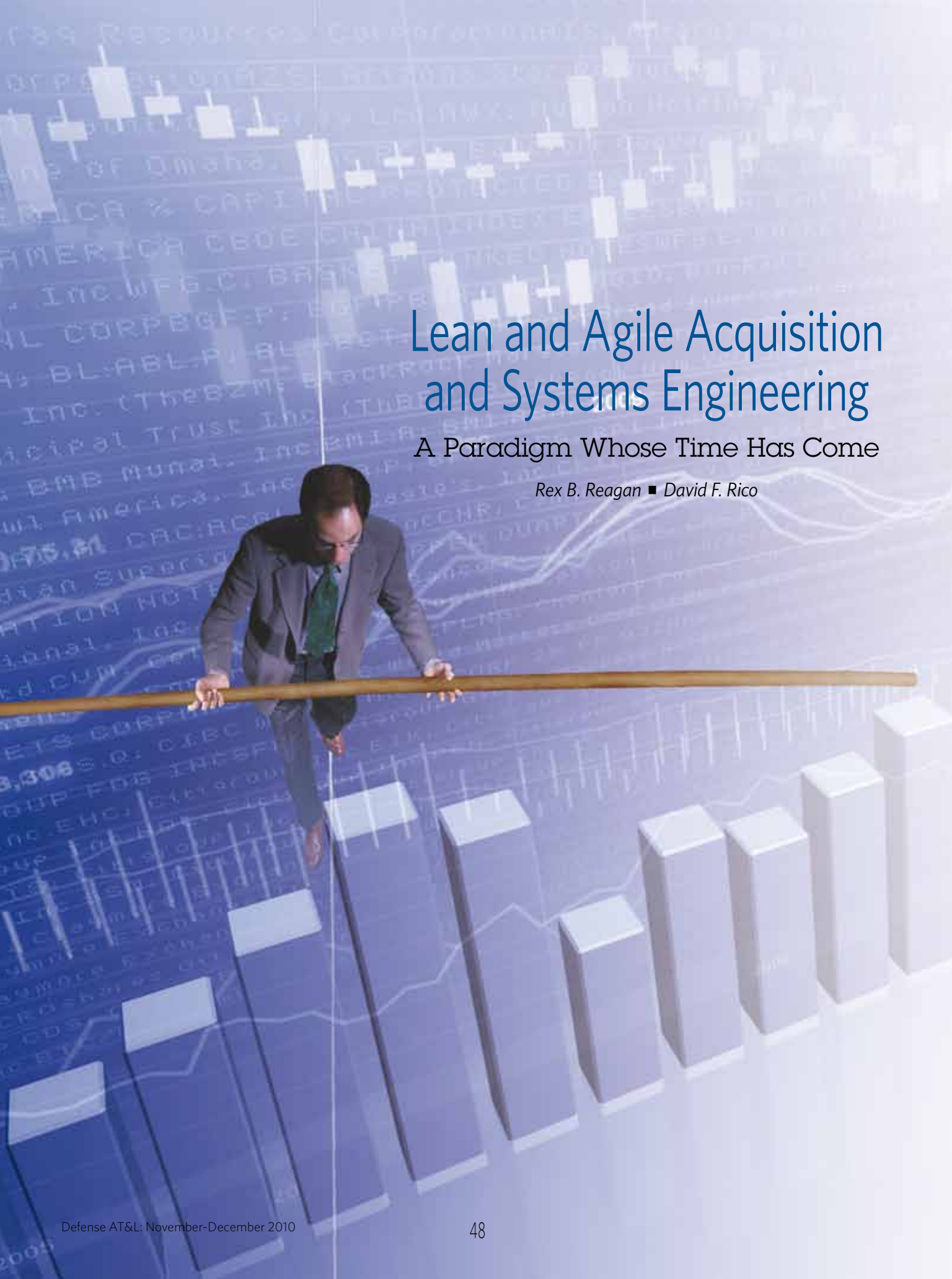

Lean and Agile Acquisition and Systems Engineering

A Paradigm Whose Time Has Come

Rex B. Reagan ■ *David F. Rico*

Today's U.S. Department of Defense acquisition system is faced with historically unprecedented and seemingly insurmountable challenges that are leading to cost and schedule overruns, poor technical performance, reduced delivery order quanti-

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ties, and outright program failure. Modern weapons have become enormously complex internetworked systems of systems, technology is evolving at an increasing rate, and current acquisition practices may be exacerbating poor program performance.

Lean and agile acquisition and systems engineering practices are emerging to help overcome the challenges of rapidly fielding complex new systems in the face of dynamic and uncertain market conditions and ever increasing military and intelligence threats in order to satisfy enterprise and mission needs today.

Lean and agile acquisition and systems engineering as we know it today is a relatively new paradigm for managing high-risk, time-sensitive, research and development-oriented new product development projects. It seems to be the ideal model for modern, post-industrial information age knowledge workers. In reality, however, it has a long and rich history and lineage. Its tenets can be traced back to Roman Infantry Tactics, Leonardo da Vinci, Michelangelo, Sir Isaac Newton, and the principles of experimentation used by Louis Pasteur in the 1800s and Thomas Edison in the early 1900s. DoD also used its basic tenets to develop experimental aircraft throughout the 20th century. But today, the art and science of lean and agile principles have reached sophisticated new heights.

The fundamental theory underlying the principles is that modern systems are complex, not well-understood, subject to dynamic and unstable market conditions, technology-intensive, and constantly changing.

A common myth is that lean thinking is characterized by automation and elimination of waste. However, deeper examination reveals two major pillars: continuous improvement and respect for people. Researchers have further refined its pillars into six principles: let customers define value, map the value stream, make value flow continuously, pull value, pursue perfection, and respect people. Others express it in terms of eight principles: take an economic view, manage queue size, exploit variability, reduce batch size, manage work-in-process, control cadence, use fast feedback, and decentralize control. It's now a little easier to see the intersection of lean and agile principles: definition, prioritization, and valuation of requirements is performed by customer collaboration; decentralization and respect for people is achieved by empowering teams to make decisions; batch size, queue size, and work-in-process are lowered and cadence and variability are controlled with iterative development; fast feedback, value stream mapping, customer pull, continuous improvement, reduction of waste, and the pursuit of perfection are achieved by responding to change and using flexible technologies.

The Old Versus the Emerging New

Counter to lean and agile principles are traditional methods based on scientific management pioneered by Adam Smith and Frederick Taylor in the British and American industrial revolutions of the 1800s and 1900s. Key ideas emerging from this paradigm were division of labor, specialization, time and motion, Gantt charts, mass production, hierarchical organizations, and most other principles associated with 20th century manufacturing. The basic notion behind traditional methods is that all system requirements can and should be documented; work breakdown structures should be carefully constructed; all activities should be defined and scheduled; cost and effort should be estimated; and meticulously detailed project plans should be tracked using earned value management to control programs within a 5- or 10-percent level of precision. After technology-intensive systems started becoming too complex in the 1960s, the terms "management crisis" and "software crisis" were coined, and many people began applying principles of manufacturing as a means of controlling project scope, time, and cost.

While the proponents of Taylorism attempted to control chaos with scientific management principles, others began to rediscover the job-shop practices of highly creative and innovative artisans, mathematicians, and scientists used throughout the ages. Although management scholars had already discovered in the 1970s that incremental planning was superior to long-term strategic planning, it wasn't until the 1990s that traditional manufacturing paradigms were deemed inappropriate for managing the acquisition of complex technology-intensive systems. The basic notion behind modern ideas is that inductive thinking is better than reductionism, chaos can't be controlled, planning should be done a little bit at a time, planning should be participative with key stakeholders, products should be built in smaller chunks, and projects should be frequently replanned to dynamically adapt to constantly changing market conditions.

For the last century, management scholars have been critically analyzing the global impacts of Tayloristic principles on enterprises and industrial competitiveness. They gradually came to the realization that standardization was good, but so was individual creativity; hierarchical command and control

A common myth is that lean thinking is characterized by automation and elimination of waste. However, deeper examination reveals two major pillars: continuous improvement and respect for people.

structures were good, but flatter organizations were better; and mass production push-systems were good, but flexible pull-systems to react to shifting market needs were even better. They also realized that long-term strategic, operational, and project planning were good; but lighter-weight and more flexible planning was better. Zero-defect quality programs and cost efficiency were good; but market effectiveness, customer satisfaction, and profitability were even better. Their turning point was the advent of the Oil Shock of the 1970s, when scholars realized that Taylorism was insufficient in spite of its overly structured and infinitely detailed strategic plans, replete with all of its scientific management trappings.

DoD, however, was headed in the opposite direction to become less lean and agile. From the 1950s to 1970s, DoD had used lean and agile principles to usher in the jet age and to rapidly evolve experimental aircraft such as X-15, SR-71, U-2, F-111, F-117, and many others. In spite of these successes, the principles used to develop experimental aircraft throughout the early jet age and Cold War were not deemed suitable for the acquisition of production aircraft as it pertained to engineering, manufacturing, production, deployment, operations, and support.

In the late 1950s, DoD planners came to believe that the key to successful weapon systems was to apply rigid manufacturing principles to acquisition and systems engineering. A myriad of standards, tools, and practices gradually replaced research-oriented paradigms: Cost/Schedule Performance Criteria, MIL-STD-1521 [*concerning system design review*], DoD-STD-2167 [*specifying software documentation deliverables*], MIL-STD-498 [*establishing "uniform requirements for software development and documentation*], Earned Value Management, and DoD 5000 Series. These were only the tip of an iceberg of thousands of lower-level standards making up what came to be known as the defense acquisition system.

While the U.S. DoD was busily slowing down its acquisitions based on Tayloristic principles, others were not. The notion of iterative development emerged in 1975, incremental development in 1976, evolutionary development in 1978, and spiral development in 1986. The paradigms of overlapping development, simultaneous engineering, and concurrent engineering also emerged by 1990. Even agile methods for information technology projects gained traction around 1999. All of these emerging paradigms ran counter-intuitive to Tayloristic mega-standards.

Lean and Agile and DoD

A commonly asked question is, "Does the use of lean and agile systems engineering improve the performance of major acquisitions within the U.S. Department of Defense?" It is basically a new product development approach for creating innovative systems in the 21st century. If the two pillars of lean thinking are continuous improvement and respect for people, then its five pillars are: (1) intensive customer collaboration and interaction instead of contract negotiation, (2) small high-performance multi-disciplinary teams instead of bureaucratic processes, (3) iterative development of working operational systems and technology demonstrations instead of a mountain of documentation, (4) responding to changing customer needs, market conditions, and military threats instead of using earned value management to track an obsolete program plan until all of the money is spent, and (5) using powerful, high-level, flexible, and adaptive technologies instead of building every system one circuit board and one line of code at a time.

A fundamental issue is that DoD acquires some of the most complex systems in the history of world, all requirements cannot be known in advance, and customer requirements always change before the ink dries on the paper. In addition, technology is advancing and so are our enemies' capabilities. Thus, lean and agile systems engineering is basically a four-step process of:

- Identifying and prioritizing customer needs such as high-level enterprise and mission goals, objectives, and capabilities
- Decomposing the highest-priority customer needs into manageable chunks that are technologically feasible and implementable in a short timeframe
- Designing, implementing, and evaluating working operational systems including technology demonstrations that satisfy high priority customer needs
- Rinsing and repeating the process of scanning the environment, assessing current technologies, analyzing new threats, identifying new and emerging enterprise and mission customer needs; and re-prioritizing, re-planning, and re-allocating resources.

After a protracted period of bureaucratization, lean and agile principles started making a comeback within the U.S. DoD in the very end of the 20th century. As a direct result of the systems and software engineering movements of the 1990s, "evolutionary acquisition" sprang into action in the Pentagon, U.S. Air Force, and U.S. Navy in 1999. DoD 5000 first mentioned evolutionary acquisition in 2000. Then-under

secretary of defense for acquisition, technology and logistics E. C. Aldridge Jr. wrote the Evolutionary Acquisition and Spiral Development Policy in 2002. DoD 5000 Series directly incorporated evolutionary acquisition in 2003. Numerous acquisition articles, research reports, academic studies, and the first textbooks emerged to deal with evolutionary acquisition. However, most were critical—cautionary tales of the dangers, pitfalls, and perils of using evolutionary principles from the 1970s on large-scale programs.

Crisis is a catalyst for change, and DoD has certainly been a community in crisis since Sept. 11, 2001. Our enemies were inside the gates, and DoD quickly and successfully responded with lean and agile principles instituted at the enterprise level to roll out new capabilities to the warfighter in 30, 60, and 90-day increments—and sometimes even in days. The U.S. Army used lean and agile principles to complete elements of its Ground Mobile Radio program on time and within budget. The U.S. Air Force is using them to complete subsystems for the F-22 and F-35, as well as bring the MC-12W from concept to operation in as little as two years. Defense contractors are standardizing their operations using the principles. As late as February 2010, Army Gen David H. Petraeus called for "adaptive, responsive, and speedy acquisitions" because "the enemy that the United States is fighting is unlike any enemy fought in the past, demonstrating different tactics, techniques, and procedures from those found in conventional warfare."

Lean and agile acquisition and systems engineering is here to stay. The traditional process of amassing a mountain of documentation to acquire a single weapon system over a period of decades is obsolete. The U.S. defense acquisition system has been improved, with its overall reduction in size and complexity, introduction of evolutionary concepts such as increments and spirals, and focus on improving overall acquisition performance. However, there is a long way to go in terms of the prioritization and valuation of mission needs; reduction of batch, increment, and spiral sizes; use of smaller higher-performing project teams; development of lightweight, flexible, and near-term strategic planning and program management approaches; and exploitation of commercialized technologies instead of building each weapon system one circuit board and one line of code at a time.

Now is the time for the Defense Department to institutionalize lean and agile principles to help overcome the challenges of rapidly fielding complex new systems in the face of dynamic and uncertain market conditions, the exponential rate of technological change, ever increasing military threats, and insurmountable risks, in order to satisfy emerging enterprise and mission needs today.

The authors welcome comments and questions. Reagan can be reached at rbreagan@us.ibm.com and Rico at dave1@davidfrico.com.

Buying Tools for Fighting Teams

A Story with a Happy Ending: Part 1

Col. Brian Shimel, USAF

Once upon a time, in a land so much like our own nobody could tell them apart, a Small Elite Amphibious Fighting Team realized they had a problem. The SEAFT was sent to far places to discuss things with people who didn't like to listen. Although it sometimes led to fights, it wasn't something the team worried about very much—they were trained to accept that sort of situation and were provided with tools to help them, but mostly they had a lot of desire to do well in every situation.

This story came about because the SEAFT was using a portable combat radar system to help them find people—people who were trying to find them first. Although the radar still did the things it had always done, the world was changing quickly all around them, and the team's radar was very old. In fact, the team hadn't upgraded their radar technology since the days of DOS, the Commodore 64, or the Commodores, for that matter. The radar

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struggled valiantly to perform capably in the mobile, lethal, integrated fashion the SEAFT expected from their warfighting tools in the new era of joint enterprise electronic network operations. But it just couldn't keep up.

Building a Better Radar

The SEAFT wasn't the kind of fighting team that sat around worrying about the problem. They decided they had to do something about it. So they set out to design, develop, produce, and deliver a new radar to their fighting team to help them vanquish their nation's enemies even better than before.

The SEAFT Headquarters put their finest analysts to work examining the technology upgrades needed for the radar to perform with the modern capability they wanted to achieve. The more the analysts learned, the more they discovered it was going to be a hard job, as many things had changed since bell bottoms swung freely across their land. They worked to understand everything about developing the new radar. The analysts completed a rough estimate of the money they would need to deliver the new radar into the capable hands of the young men and women who would use it to help defeat their nation's enemies with the swiftness and thoroughness so admired in their land. Unfortunately, because it had been so long since the SEAFT had last upgraded their radar technology, they were not certain they understood everything they needed to do to design and develop the new, improved radar. Many of the first designs and estimates were fraught with risk and uncertainty, but the SEAFT analysts attacked the problem with the vigor and enthusiasm that had made them famous in the first place, and the unknown values were slowly filled in.

As the SEAFT HQ made progress towards understanding all that was necessary to deliver the radar, they also started to understand how much it would really cost to do the work and to see that the expected costs were becoming larger and larger. Eventually the costs became so high that the analysts of the SEAFT realized their young men and women could more effectively kill the enemies of their nation if they spent their money on different tools rather than fund the new radar.

So they abandoned their radar development efforts. But they kept their notes in a safe place, just in case. They admired the portability and capability of the new radar. Maybe one day, things might work out differently.

That was almost the end of my story about the radar—but not quite.

We Had Our Eyes on That

One of the other fighting teams from the same nation that employed the SEAFT, the Above Low Objects Fighting Team (ALOFT), had been following the new radar development, and they also admired it greatly. You might even say the ALOFT coveted it. You see, they also had not built a radar with new technology since way back when. Since the SEAFT was no longer leading the development of the new radar, the ALOFT decided to take over the development themselves.

The ALOFT had a larger budget for new radar and a great dependence on technology to accomplish their lofty mission. The ALOFT assigned the task of developing the new radar to their professionals whose job it was to deliver new tools to warfighting teams. The professionals were very experienced and knew exactly what to do, so they set right to work on their tasks. First they called friends who used to work with them but were now working in really well-paying jobs with specialized defense contractors, and they asked their friends how much they thought the new radar might cost to develop.

This reflexive step was so routine it had its own name and its own acronym—the truest measure of success in this business. It is called an RFI, or request for information. (It may not sound like much, but let me tell you that once you get your own acronym, you are really something, and your acronym will soon be rolling off the tongues of some very influential people!) The contractors, who were not experts in this business for nothing, asked the professionals how much money the ALOFT were willing to spend on developing a great new radar like the one they'd described.

Plowing Through the Paperwork

Fortunately, the SEAFT had been very willing to share their notes with the ALOFT, so the ALOFT could quickly start to fill in more of the blanks and unknown parts from the original estimate. They talked closely with their friends in the defense contracting business, and they started to agree on an idea of how much the new radar might cost. Unsurprisingly to some of the more experienced people in the ALOFT's professional tool-buying program (who in no way should be called jaded), the contractors' estimates came in very close to the amount of money available to be spent by the ALOFT on a new radar.

Good progress was now being made, and much of the risk and uncertainty from the original estimate was being solved—so much of it, in fact, that it was time to get approval to make this into a formal tool-acquisition program!

Well, in order for the ALOFT to get approval, which would be done in several phases, a lot of words had to be written and a lot of vital charts had to be created. The professional ALOFT tool buyers jumped right on the job because they were very good at words and charts. They'd had a lot of practice, thanks mostly to the many, many layers of important offices of necessary supervision and review between them and any person with the authority to make a big decision about expensive purchases.

They separated the tool development program into research and development, production, and sustainment phases. Then they documented the steps necessary for each part,

carefully filling out the vital charts with bright colors, arrows, dates, figures, names, office symbols, and even embedded videos (they weren't professionals for nothing, as was evident from looking at those charts) that clearly showed how much each part and each step in the long journey would cost to accomplish. The vital charts made very impressive viewing on screens in big conference rooms, and the ALOFT sent them to many interested people in all manner of organizations that liked to know what was new in the professional tool-buying world. They conducted many IPTs (Interesting Public-funded Trips), and continued to work feverishly to get approval from their bosses all the way up to the headquarters of the ALOFT in their nation's capital! It was an exciting time for those involved with the new radar.

Now to help the reader who may not be a professional tool-buyer appreciate how much risk and uncertainty is associated with the development of a new tool, let me explain.

One way to assess the risk and uncertainty in a new program is to see how much research, development, test and engineering (RDT&E) effort is allocated in the early phases of the tool development. If a new system or product is more or less a finished product that just needs to be put into a fighting team's inventory system and shipped to the young men and women in theater, there may be no or very little RDT&E necessary. (Professional tool buyers call that off-the-shelf technology; the people who own the tools call it proprietary. Both are interesting terms, but that is another story).

On the other hand, if a fighting team has to invent something new, something that has never been done before, there can be quite a bit of RDT&E necessary to get the tool ready for production, delivery, and integration with other existing tools. So, from now on, as a way to represent how sure the ALOFT is about what they are about to develop, I'm just going to talk about the RDT&E money planned for the new radar. I hope that will make it simpler to follow. Just remember: RDT&E money is a symbol of the risk and uncertainty associated with the development of the new radar (or any new tool, for that matter).

What's it Cost? Well, How Much Do You Have?

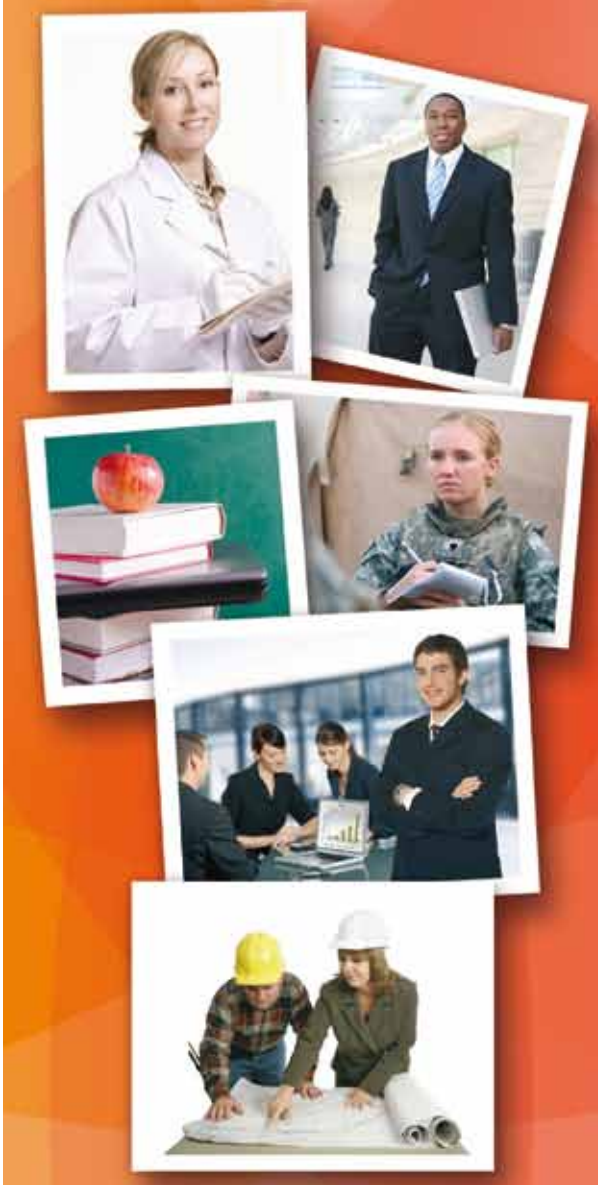
After the tool-buying professionals identified the steps needed in each phase, they also had to identify how much it would all cost. After sufficient and necessary supervision and review and a few IPTs, the ALOFT chief tool buyer or a very important deputy would formally approve the start of the process to do actual work, and by "actual work," we mean, of course, to advertise the new radar as an opportunity for a defense tool maker to compete for the contract to do the work, while being supervised by the staff of the lucky professional tool buyer chosen to lead the project. Then the ALOFT HQ would put enough additional funding into the tool buyers' accounts to do the work and successfully deliver the new radar to the warfighting teams all over the world—who, in truth, were still using their very old radar for find their nation's enemies—albeit with increasing effort, as they struggled to keep up with at least 20 years of very impressive progress in the electronics world, such as texting, Twitter, instant messaging, Facebook—not to mention frequency hopping, jamming, and Direct TV.

Now the ALOFT did an excellent job of identifying the problems they would have to solve to reduce the risk and uncertainty that was part of making a 20-year leap in radar technology. Their program analysts had a lot more information to work with than the analysts of the SEAFT ever had. As you might suspect, the ALOFT analysts came up with a different answer—and their answer was a big number—beyond what was in the ALOFT budget to develop the radar. The number was big because they had better information and because (unlike the contractors whose opinions were first sought) they didn't have a vested interest in competing for the chance to develop a new radar for the ALOFT. What that means is they weren't risking losing money from the new work by estimating more than the ALOFT had to spend on the new radar.

The professional tool buyer had a problem—a big problem—because without enough funds set aside (and it was a long and difficult process to get those funds), the development couldn't go any further. The experts he relied on to give him the best possible information on which to make a sound decision about spending his nation's scarce resources had given him a number that didn't fit into his tool-buying plan, and he was going to have to make changes or ask permission all the way up through the many, many layers of important offices of necessary supervision and review to get more money to develop the new radar.

That was a BIG problem ... and you can find out how it was solved in the next issue of *Defense AT&L*.

The author welcomes comments and questions and can be contacted at **brian.shimel@peterson.af.mil.**



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Do these issues sound familiar?

- There are many practice lists to choose from but no guidance for selecting specific practices
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- Success factors for practices are not well documented
- Implementation guidance is often missing
- The cost and timeliness associated with implementing and using the practices are often not specified

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An Internet Listing Tailored to the Professional Acquisition Workforce

Surfing the Net

ACQuipedia
https://acquipedia.dau.mil
Online encyclopedia that provides the acquisition workforce with quick access to information on common acquisition topics.

Acquisition Central
http://acquisition.gov
Shared systems and tools to support the federal acquisition community and business partners.

Acquisition Community Connection
http://acc.dau.mil
Policies, procedures, tools, references, publications, Web links, and lessons learned for risk management, contracting, system engineering, TOC.

Aging Systems Sustainment and Enabling Technologies
http://asset.okstate.edu
Government-academic-industry partnership. ASSET program-developed technologies and processes expand the DoD supply base, reduce time and cost of parts procurement, 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 Contracting Laboratory's FARSite
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.

Army Training Requirements and Resources System
https://www.atrrs.army.mil
Army system of record for managing training requirements.

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

Association for the Advancement of Cost Engineering International
www.aacei.org
Planning and management of cost and schedules; online technical library; bookstore; technical development; distance learning.

Association of Old Crows
https://www.myaoc.org
News; conventions, courses; *Journal of Electronic Defense*.

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

Best Practices Clearinghouse
https://bpch.dau.mil
The authoritative source for acquisition best practices in DoD and industry. Connects communities of practice, centers of excellence, academic and industry sources, and practitioners.

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 Portal
https://dap.dau.mil
One-stop source for acquisition information and tools.

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

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

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

Defense Information Systems Agency
www.disa.mil
Defense Information System Network; Defense Message System; Global Command and Control System.

Defense Modeling and Simulation Coordination Office
http://www.msco.mil
DoD modeling and simulation master plan; document library; events; services.

Defense Spectrum Organization
http://www.disa.mil/dso/
Operational spectrum management support to the Joint Staff and COCOMs; conducts R&D into spectrum-efficient technologies.

Defense Technical Information Center
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 websites.

Department of Commerce, Defense Priorities and Allocations System
www.bis.doc.gov/dpas
DPAS regulation, policies, procedures, and training resources.

Deputy Chief Management Officer
http://www.defenselink.mil/dcmo/index.html
Information on the Defense Business Transformation Agency and the DoD Performance Improvement Officer.

Deputy Under Secretary of Defense for Acquisition and Technology
www.acq.osd.mil/at
Acquisition and technology organization, goals, initiatives, and upcoming events.

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

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

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

DoD Inspector General Publications
http://www.dodig.mil/PUBS/index.html
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
http://www.acq.osd.mil/sse
Policies, guides and information on SE and related topics, including developmental T&E and acquisition program support.

Earned Value Management
www.acq.osd.mil/pm
Implementation of EVM; latest policy changes; standards; international developments.

Electronic Industries Alliance
www.eia.org
Government relations department; links to issues councils; market research assistance.

FAIR Institute
http://www.thefairinstitute.org
Organization that promotes a federal acquisition system that continually innovates, exceeds world class standards of performance, and ensures the prudent use of taxpayer dollars.

Federal Acquisition Institute
www.fai.gov
Virtual campus for learning opportunities; information access and performance support.

Federal Acquisition Jumpstation
http://prod.nais.nasa.gov/pub/fedproc/home.html
Procurement and acquisition servers by contracting activity; CBDNet; reference library.

Federal Aviation Administration
http://fast.faa.gov
Online policy and guidance for all aspects of the acquisition process.

Federal Business Opportunities
www.fedbizopps.gov
Single government point-of-entry for federal government procurement opportunities over $25,000.

Federal R&D Project Summaries
http://www.osti.gov/fedrnd
Portal to information on federal research projects; search databases at different agencies.

Acquisition & Logistics Excellence

An Internet Listing Tailored to the Professional Acquisition Workforce

Surfing the Net

Fedworld Information
www.fedworld.gov
Central access point for searching, locating, ordering, and acquiring government and business information.

Government Accountability Office
http://gao.gov
GAO reports;policy and guidance; FAQs.

General Services Administration
www.gsa.gov
Online shopping for commercial items to support government interests.

Government-Industry Data Exchange Program
http://www.gidep.org
Federally funded co-op of government-industry participants, providing electronic forum to exchange technical information essential to life cycle development.

Integrated Dual-Use Commercial Companies
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
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
www.acq.osd.mil/jctd
JCTD's accomplishments, articles, speeches, guidelines, and POCs.

Joint Interoperability Test Command
http://jitc.fhu.disa.mil
Policies and procedures for interoperability certification; lessons learned; support.

Library of Congress
www.loc.gov
Research services; 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.

NASA's Commercial Technology Office
http://technology.grc.nasa.gov
Promotes competitiveness of U.S. industry through commercial use of NASA technologies and expertise.

National Contract Management Association
www.ncmahq.org
Educational products catalog; publications; career center.

National Defense Industrial Association
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
http://www.nist.gov
Information about NIST technology, measurements, and standards programs, products, and services.

National Technical Information Service
www.ntis.gov
Online service for purchasing technical reports, computer products, videotapes, audiocassettes.

Naval Air Systems Command
www.navair.navy.mil
Provides advanced warfare technology through the efforts of a seamless, integrated, worldwide network of aviation technology experts.

Naval Research Laboratory
http://www.nrl.navy.mil
Navy and Marine Corps corporate research laboratory. Conducts scientific research, technology, and advanced development.

Naval Sea Systems Command
www.navsea.navy.mil
TOC; documentation and policy; reduction plan; implementation timeline; TOC reporting templates; FAQs.

Navy Research, Development, and Acquisition
http://acquisition.navy.mil/rda
Policy documents; career management; Acquisition One Source page, providing links to acquisition communities of practice.

Office of Naval Research
http://www.onr.navy.mil
News and announcements; publications and regulations; technical reports; doing business with the Navy.

Open Systems Joint Task Force
www.acq.osd.mil/osjtf
Open systems education and training opportunities; studies and assessments; projects, initiatives and plans; library.

Parts Standardization and Management Committee
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
http://www.pmi.org
Program management publications; information resources; professional practices; career certification.

Small Business Administration
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.

Reliability Information Analysis Center
http://theRIAC.org
DoD-funded DTIC information analysis center; offers reliability, maintainability, quality, supportability, and interoperability support throughout the system life cycle.

Software Engineering Institute (SEI)
www.sei.cmu.edu
Advances software engineering principles and practices as well as computer security, and process improvements.

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
https://e-commerce.sscno.nmci.navy.mil
SPAWAR business opportunities; acquisition news; solicitations; small business information.

System of Systems Engineering Center of Excellence
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
www.acq.osd.mil
USD(AT&L) documents; streaming videos; links.

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 website to this list, or to update your current listing, please e-mail your request to 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.

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Defense AT&L

Writer's Guidelines in Brief

Purpose

Defense AT&L is a bi-monthly magazine published by DAU Press, Defense Acquisition University, for senior military personnel, civilians, defense contractors, and defense industry professionals in program management and the acquisition, technology, and logistics workforce. The magazine provides information on policies, trends, events, and current thinking regarding program management and the acquisition, technology, and logistics workforce.

Submission Procedures

Submit articles by e-mail to datl(at)dau.mil or on disk to: DAU Press, ATTN: Managing Editor, 9820 Belvoir Rd., Suite 3, Fort Belvoir VA 22060-5565. Submissions must include the author's name, mailing address, office phone number, 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.

Deadlines

Issue	Author Deadline
January-February	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.

Audience

Defense AT&L readers are mainly acquisition professionals serving in career positions covered by the Defense Acquisition Workforce Improvement Act (DAWIA) or industry equivalent.

Style

Defense AT&L prints feature stories focusing on real people and events. The magazine also seeks articles that reflect your experiences and observations rather than pages of researched information.

The magazine does not print academic papers; fact sheets; technical papers; white papers; or articles with footnotes, endnotes, or references. Manuscripts meeting any of those criteria are more suited to DAU's journal, *Acquisition Review Journal (ARJ).*

Defense AT&L does not reprint from other publications. Please do not submit manuscripts that have appeared in print elsewhere. *Defense AT&L* does not publish endorsements of products for sale.

Length

Articles should be 1,500 – 2,500 words.

Format

Submissions should be sent via e-mail as a Microsoft® Word attachment.

Graphics

Do not embed photographs or charts in the manuscript. Digital files of photos or graphics should be sent as e-mail attachments or mailed on CDs (see address above). Each figure or chart must be saved as a separate file in the original software format in which it was created.

TIF or JPEG files must have a resolution of 300 pixels per inch; enhanced resolutions are not acceptable; images downloaded from the Web are not of adequate quality for reproduction. Detailed tables and charts are not accepted for publication because they will be illegible when reduced to fit at most one-third of a magazine page.

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Author Information

Contact and biographical information will be included with each article selected for publication in *Defense AT&L*. Please include the following information with your submission: name, position title, department, institution, address, phone number, and e-mail address. Also, please supply a short biographical statement, not to exceed 25 words, in a separate file. We do not print author bio photographs.

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