Defense Department Must End Business as Usual, Gates Says

AMERICAN FORCES PRESS SERVICE (JULY 16, 2009)
Samantha L. Quigley

CHICAGO—Defense spending and program priorities cannot be divorced from the very real threats of today and the growing ones of tomorrow, the defense secretary told hundreds of members of the Economics Club of Chicago July 16.

"We stand at a crossroads," Robert M. Gates said. "It is time to draw the line and take a stand against the business-as-usual approach to national defense.

"We must all fulfill our obligation to the American people to ensure that the United States remains safe and strong," he said.

The proposed $534 billion Fiscal Year 2010 defense budget is the first true 21st century defense budget and reflects the fundamental shift in the nature of the conflicts the nation faces, Gates said. Other nations have learned from others' encounters with the United States that it is ill-advised to fight a conventional war head-to-head with the United States.

"Instead, they are developing asymmetric means that take advantage of new technologies—and our vulnerabilities—to disrupt our lines of communication and our freedom of movement, to deny us access, and to narrow our military options and strategic choices," Gates said. "In sum, the security challenges we now face, and will in the future, have changed, and our thinking must likewise change.

"The old paradigm of looking at potential conflict as either regular or irregular war, conventional or unconventional, high end or low end—is no longer relevant," he added.

As a result, Defense Department leaders need to think about and prepare for war in a profoundly different way than what has been typical throughout the better part of the last century, he said.

To this end, the president's budget request cut, curtailed, or ended a number of conventional modernization programs, including satellites, ground vehicles, helicopters, and fighters that were either performing poorly or in excess to real-world needs. Conversely, future-oriented programs where the United States was relatively underinvested were accelerated or received more funding.

For example, Gates described a little-noticed initiative in the budget that includes money to begin a new generation of ballistic missile submarines. It also allows for nearly $700 million in additional funds to secure and assure America's nuclear deterrent.

"In truth, preparing for conflict in the 21st century means investing in truly new concepts and new technologies," Gate said. "It means taking into account all the assets and capabilities we can bring to the fight. It means measuring those capabilities against the real threats posed by real-world adversaries."

One of the programs the budget would cap is the F-22 fighter jet program. While "a niche silver-bullet solution for one or two potential scenarios," the fighter is expensive and has limited capabilities when compared to the F-35 Joint Strike Fighter.

The F-35 is 10 to 15 years newer, less than half the cost, carries a much larger suite of weapons, and is technologically superior in several areas. About 500 will be purchased over the next five years and more than 2,400 over the life of the program, Gates said. By contrast, he recommended to the president that the F-22s already allowed for were sufficient.

"The grim reality is that with regard to the budget we have entered a zero-sum game," Gates said. "Every defense dollar diverted to fund excess or unneeded capacity … is a dollar that will be unavailable to take care of our people, to win the wars we are in, to deter political adversaries, and to improve capabilities in areas where America is underinvested and potentially vulnerable.

"That is a risk that I cannot accept and one that I will not take," he said. "If the Department of Defense can't figure out a way to defend the United States on a budget of more than half a trillion dollars a year, then our problems are much bigger than anything that can be cured by a few more ships and planes."

When inflation and the fact that some war costs were moved from the supplemental appropriations to the main defense budget, the current proposed $534 billion budget is a modest increase over the last proposed defense budget of $524 billion, Gates said.

By one estimate, the U.S. defense budget adds up to about what the entire rest of the world combined, friend or foe, spends on defense. "Only in the parallel universe that is Washington, D.C., would that be considered 'gutting' defense," Gates said.

Some in Congress have called for yet more analysis before making any of the decisions in this budget, he added. But

when dealing with programs that were clearly out of control, performing poorly, and [in] excess to the military's real requirements, military leaders didn't need more study, more debate, or more delay, he said.

"What was needed were three things—common sense, political will, and tough decisions," Gates said.

Those three qualities would lead to decisions that provide the country with a portfolio of military capabilities with maximum versatility across the widest spectrum of conflict—exactly what's needed in today's high-stakes security world where the country is at war, and the security landscape is growing steadily more dangerous and unpredictable, he said.

"I am deeply concerned about the long-term challenges facing our defense establishment and just as concerned that the political state of play does not reflect the reality that major reforms are needed, or that tough choices are necessary," Gates concluded.

The secretary's address to the Economic Club of Chicago concluded the first of a two-day trip, which started with a visit to Fort Drum, N.Y., where he held a town hall meeting with about 200 troops.

Quigley writes for American Forces Press Service.

New Weapon System Boosts Soldiers' Safety

SPECIAL TO AMERICAN FORCES PRESS SERVICE (AUG. 6, 2009)
Army Staff Sgt. Marcos Alices

KANDAHAR AIRFIELD—As U.S. forces fight insurgents in the southern and eastern regions of Afghanistan, officials are working to protect them with new technology, equipment, and vehicles.

One of the newest tools in their arsenal is the common remotely operated weapon station II, known as CROWS II, which enables soldiers to acquire and engage targets from the safety of their armored vehicle.

"It will save lives with the soldier being able to operate the weapon while staying in the vehicle," said Army Master Sgt. David Fyock, an electronic warfare officer and counter improvised explosive device noncommissioned officer for Joint Sustainment Command Afghanistan.

The weapon system uses improved optics to help with the positive identification of targets, and offers another method for finding homemade bombs, he said. In addition, the CROWS' three-axis, stabilized mount contains a sensor suite and fire-control software, enabling soldiers to engage targets while on the move. The sensor suite makes it possible to identify, engage, and defeat targets—under any conditions—with its daytime video camera, thermal camera, and laser rangefinders.

"The controls of the CROWS II are a little bit easier for soldiers to learn," said Samuel Cottrell, a CROWS II training specialist from Rosedale, Ind. "It has a few more bells and whistles that CROWS I didn't have."

Soldiers will receive a five-day course on the weapon system, including training on day and night operations. On the last day of training, soldiers will fire ammunition.

"I'm six days from rolling outside the wire," said Bobby H. Thomas, a 317th Field Artillery cannon crew member. "I feel pretty confident with this system, as opposed to having to be in the gunner hatch. I think it is definitely going to make a vast difference."

Joint Sustainment Command Afghanistan officials are ensuring the smooth distribution of CROWS II within Afghanistan, said Army Chief Warrant Officer 5 David N. Conrad, a maintenance management technician. Command officials will supply units with the weapon system based on their mission.

"It is not the answer for everything," Cottrell said. "It is a good system and gives the warfighter a little more capability."

Alices serves in the Joint Sustainment Command Afghanistan public affairs office.

General Calls for Quicker Fielding of Unmanned Systems

AMERICAN FORCES PRESS SERVICE (AUG. 12, 2009)
Army Sgt. 1st Class Michael J. Carden

WASHINGTON—The Defense Department and unmanned systems developers must do a better job fielding unmanned capabilities to servicemembers on the front lines in Iraq and Afghanistan, a senior military officer said here yesterday.

Army Lt. Gen. Rick Lynch, commanding general of the Army's 3rd Corps and Fort Hood, Texas, voiced this concern during a speech to defense contractors at the Association for Unmanned Vehicle Systems International's Unmanned Systems North America 2009 Convention. More than 5,000 people from 30 countries took part in the conference that began Aug. 9 and ended Aug. 13 at the Washington Convention Center.

The convention is the world's largest exhibition of robots and unmanned systems capabilities. More than 320 unmanned aerial, maritime, and ground systems were on display, offering the industry's latest products and innovations.

"Every day, we try to make the lives of our soldiers and their families better," Lynch said. "And advocating unmanned systems technology is all part of it."

Lynch has been an advocate for unmanned ground systems since 1985, just after he graduated from the Massachusetts Institute of Technology with a master's degree in mechanical engineering focused on robotics, he said.

His passion continued as a young captain at Fort Knox, Ky., where he was the robotics project officer in the directorate of combat development at the Army's Armor Center, he added.

"I have pursued with a passion unmanned ground vehicle technology every day since then," the general said, "because in my mind, it is about saving lives."

In three accumulative years of deployments in support of Operation Iraqi Freedom, Lynch said he's lost 153 soldiers to combat. He also noted that there are more than 1,500 families of fallen servicemembers living on and around Fort Hood.

Many of them didn't have to die, he said. "Eighty percent of those youngsters didn't have to die, because they died in a way where they could've been replaced by an unmanned ground vehicle if [the military] had the capabilities."

In contrast, Lynch said, 41 more of his soldiers would have died if they had not been in one of the Army's mine-resistant ambush-protected vehicles. The MRAPs "are a godsend," he said, adding that soldiers' lives are still at risk while unmanned capabilities are tucked away in industry warehouses.

It's not enough to know that capabilities are available and vendors and companies have the latest in unmanned capabilities stocked away on their shelves, Lynch said. Troops are engaged daily by roadside bombs in Iraq and Afghanistan. New technologies are no good unless they're fielded and in the hands of the troops, he added.

"I am so tired of going to demonstrations because of technology," Lynch said, noting the "amazing" advances he's seen over the years with unmanned ground vehicles and other systems. "I did them in 1985, and I've seen amazing capabilities. We've got to get past the demonstration and into the fielding."

Army Lt. Gen. Rick Lynch, commanding general of the Army's 3rd Corps and Fort Hood, Texas, speaks to defense contractors at the Association for Unmanned Vehicle Systems International's Unmanned Systems North America 2009 Convention, Aug. 11, 2009.
DoD photo by Army Sgt. 1st Class Michael J. Carden

Fielding can happen, he said, if the unmanned industry would stay focused on it. "We as a nation said we've got to accelerate [MRAP] fielding, and by God, they showed up," he said. "We've put our soldiers in the back of them, and if those soldiers had been in a tank, a Bradley [Fighting Vehicle] or an up-armored humvee, they all would've died or been seriously injured. I tell you that to let you know we can [save lives] if we, indeed, focus."

Lynch identified four areas for vendors and defense officials to focus on when developing and purchasing unmanned capabilities. He categorized the areas as route clearance, persistence, convoy following, and robotic wingman technology.

He described the need for route clearance capabilities by explaining troops' missions to drive up and down roads and highways, specifically searching for roadside bombs. He called for systems that can be remotely operated to take the place of actual soldiers risking their lives for such a cause.

"We've got to get those kids out of those route clearance vehicles," he said. "Let's get those kids out of the vehicles so they don't continue to die."

Persistence involves replacing the duties where soldiers have to hide in over-watch positions for days at a time, scouting the landscape for insurgents planting bombs. He shared a true story from 2007 in Baghdad where seven of his soldiers were killed and three were captured by insurgents while conducting such a mission.

Again, he called for a remote-controlled ground system to take the soldiers' place in similar situations. He added that while some may feel unmanned aerial systems fill this need, UASs are not always readily available because of weather and other issues.

Convoy following, he said, deals with minimizing the amount of troops participating in convoys. He said he's seen capabilities at demonstrations and exhibits where the lead vehicle in a convoy was manned by a soldier and most of the other vehicles were unmanned.

"We're losing so many soldiers in convoys that it's a professional embarrassment," Lynch said. "Why in the world does every cab in the convoy have to be occupied by a human being? I've seen that technology demonstrated many times over the last 25 years, yet we're not fielding that technology."

Another pressing need, Lynch said, is for a robotic wingman in vehicles that mirror the movements of others. He explained that a platoon of tanks consists of four tanks with four soldiers in each. The robotic wingman can mirror the manned vehicles' movements and cut risk to soldiers in half, he said.

To help ensure the unmanned industry's focus on saving lives, Fort Hood hosted an unmanned ground system rodeo Sept. 1–3. More than 40 vendors displayed their systems and got feedback from combat-hardened and experienced soldiers there, Lynch said.

"If you can help us with those four applications, you're going to be making a difference," he said. "And what you're going to be doing is saving a soldier's life."

Obama, Gates Lead Defense Acquisition Reforms

AMERICAN FORCES PRESS SERVICE (AUG. 21, 2009)
Donna Miles

WASHINGTON—President Barack Obama threw his weight behind the Defense Department's acquisition reform efforts earlier this week, emphasizing that unnecessary spending hurts not only taxpayers, but also warfighters on the front lines.

"Every dollar wasted in our defense budget is a dollar we can't spend to care for our troops or protect America or prepare for the future," the president told participants at the Veterans of Foreign Wars' 110th convention in Phoenix.

Obama made clear that he's 100 percent behind reforms Defense Secretary Robert M. Gates made it a top priority—second only to succeeding in Iraq and Afghanistan—the day he assumed his post two-and-a-half years ago.

"We cannot build the 21st century military we need and maintain the fiscal responsibility that America demands unless we fundamentally reform the way our Defense Department does business," Obama told the veterans. "It's a simple fact."

Talk about changing the way the Defense Department does business is nothing new. What's new, a senior Pentagon official told American Forces Press Service, is that the issue has percolated to the highest levels, turning rhetoric into action.

Gates, Deputy Defense Secretary William J. Lynn III, and other defense leaders have demonstrated that they're willing to make the difficult decisions about which programs to support and which to curtail, said Shay Assad, acting deputy under secretary of defense for acquisition and technology.

The president's fiscal 2010 defense budget proposal reflects some of those hard decisions. It proposes cutting or ending several conventional modernization programs that proved to be poor performers or simply weren't needed in light of real-world needs to free up funding for other needed programs.

"The secretary has shown the courage to make those tough decisions, because in some quarters, they are not popular decisions," Assad said. "They are absolutely the right decisions to have been made for the warfighters and the taxpayers, but there are parochial interests involved."

Gates, backed up by the president, has demonstrated he's willing to stand up to those interests to make those decisions stick. In a pointed speech last month at the Economic Club of Chicago, he told Congress, the defense industry, and the

defense institution itself that it's time to put the "business-as-usual approach to national defense" aside.

Obama recognized some of that "business as usual" during his VFW address. "You've heard the stories: the indefensible no-bid contracts that cost taxpayers billions and make contractors rich, the special interests and their exotic projects that are years behind schedule and billions over budget, the entrenched lobbyists pushing weapons that even our military says it doesn't want," he said.

"The impulse in Washington to protect jobs back home, building things we don't need, has a cost that we can't afford," Obama said. "This waste would be unacceptable at any time. But at a time when we're fighting two wars and facing a serious deficit, it's inexcusable. It's an affront to the American people and to our troops. And it's time for it to stop."

Special interests, contractors, and entrenched lobbyists invested in the status quo are putting up a fight, Obama recognized.

"But make no mistake, so are we," he said. "If a project doesn't support our troops, if it does not make America safer, we will not fund it. If a system doesn't perform, we will terminate it. And if Congress sends me a defense bill loaded with a bunch of pork, I will veto it."

The decision to cancel the F-22 Raptor aircraft program shows this spirit in action. Gates dug in his heels when Congress pushed the Pentagon to buy more than the 187 F-22s it needed or wanted. Obama threatened a presidential veto if Congress didn't eliminate the $1.75 billion in additional F-22 funding it had added to the budget request. The Senate ultimately relented and withdrew the funding.

Obama referenced the F-22 decision during his VFW address, questioning why the United States would consider spending nearly $2 billion to buy F-22s "when we can move ahead with a fleet of newer, more affordable aircraft."

But even that alternative aircraft—the F-35 Joint Strike Fighter—has come under acquisition reformers' scrutiny. Obama called excessive costs in that program just one example of "tens of billions of dollars in waste we don't need" —that he vowed to cut.

"Think about it: Hundreds of millions of dollars for an alternate second engine for the Joint Strike Fighter when one reliable engine will do just fine," he said. "Tens of billions of dollars to put an anti-missile laser on a fleet of vulnerable 747s. And billions of dollars for a new presidential helicopter."

The Defense Department scrapped the VH-71 presidential helicopter development and demonstration program in June. That program, designed to replace the VH-3D and VH-60N helicopters that currently conduct presidential missions, had doubled in cost and was running six years behind schedule, Assad said.

Compounding the issue were questions about whether the helicopter offered the needed capability.

Obama poked fun during the VFW convention at some of the capabilities the VH-71 would have delivered. "Among other capabilities, it would let me cook a meal while under nuclear attack," he said, eliciting laughter from the audience. "Now let me tell you something: If the United States of America is under nuclear attack, the last thing on my mind will be whipping up a snack."

The decision to terminate the VH-71 program reflects a broader recognition of the need to overhaul the way the department buys weapons systems, Assad said. It's already making an impact through better-defined requirements up-front, more competitive bidding, and increased program oversight, he said.

Obama touted some of that progress to the VFW. "I've already put an end to unnecessary no-bid contracts," he said. "I've signed bipartisan legislation to reform defense procurement so weapons systems don't spin out of control," a reference to the Weapons Systems Acquisition Reform Act he signed into law in May. "And even as we increase spending on the equipment and weapons our troops do need," he said, "we've proposed cutting tens of billions in dollars we don't need."

Obama underscored the importance of these initiatives for warfighters on the front lines today, as well as those who will defend against future threats.

"This is pretty straightforward: Cut the waste. Save taxpayer dollars. Support the troops. That's what we should be doing," Obama said. "We will do right by our troops and taxpayers, and we will build the 21st century military that we need."

Requirements, Cost Control Drive Acquisition Reform

AMERICAN FORCES PRESS SERVICE (AUG. 24, 2009)
Donna Miles

WASHINGTON—As Defense Department officials overhaul the Pentagon's acquisition system, they're asking warfighters

to define exactly what they need, then holding industry to more fixed-price contracts to develop those capabilities, a senior defense official told American Forces Press Service.

Shay Assad, acting deputy under secretary of defense for acquisition and technology, cited two problems that have long plagued the defense acquisition system. Expectations were set so high—and contracts written accordingly—that systems took longer than expected to develop. Meanwhile, costs escalated, with the Defense Department left to pick up the bulk of the additional charges.

Both practices are coming to a halt as the Pentagon changes the way it does business. The goal, Assad said, is to be more responsive to warfighters' needs and better stewards of taxpayer dollars.

Warfighter requirements always will trump in the acquisition effort, Assad said. "We want our warfighters to have the overwhelming technological superiority. We want them to have every advantage they can possibly have," he said. "We do not want this to be a fair fight."

But too often in the Pentagon's drive to provide that superior capability, "we push the technical envelope too far," he acknowledged.

"We are expecting too much, instead of being realistic about what we can achieve in the near-term and getting that to the field," he said.

Defense Secretary Robert M. Gates told Congress earlier this year the Pentagon too often makes the perfect the enemy of the good. Gates said the department needs to be more willing to settle for the "75 percent solution" that gets capability into warfighters' hands faster, than always waiting for a near-perfect system. Therefore, officials are looking to the experts—the warfighters themselves—to define exactly what they need.

"Bringing warfighters into the decision-making process that drives acquisition is "a big change," Assad said. "We're very focused on working with the warfighters, and there's a significant amount of interchange," he added.

The dialogue promotes a better understanding of what capabilities are available now and can be delivered in the short-term, and which requirements have no present-day solutions and will take longer to meet, Assad said.

Warfighters get to identify, for example, when the 75 percent solution that's deliverable within two years will work until the 100 percent solution will be ready in about seven years.

"Our warfighters sometimes get frustrated because of the length of time it takes to design, develop, and field a system," Assad said. "And when we look back on it, the reason that happens is because we did not do as good a job as we should have up front, defining what we need, or making sure that the technologies exist to meet that requirement. So this is a big step forward in being more responsive to warfighters' needs."

Meanwhile, the department is keeping no-bid contracts to a minimum to increase competition. And in awarding contracts, it's helping to prevent cost overruns through better up-front cost estimates and more fixed-price development programs.

Assad conceded that fixed-price contracts aren't suitable for every program, and that it is nearly impossible to estimate precisely how much every development program will cost. But getting a better handle of costs at the beginning of the development process will reduce expensive surprises later in the process, he explained.

"So when we say something is going to cost $50 million, we will be comfortable that it is going to be in that range somewhere—not $300 million," he said.

Fixed-price contracts, with payouts tied to performance, will make contractors closer partners in ensuring programs proceed on schedule and on budget, Assad said.

President Barack Obama emphasized the importance of these and other acquisition reforms under way during an address last week at the Veterans of Foreign Wars convention in Phoenix.

"Every dollar wasted in our defense budget is a dollar we can't spend to care for our troops or protect America or prepare for the future," the president said. "We cannot build the 21st century military we need and maintain the fiscal responsibility that America demands unless we fundamentally reform the way our Defense Department does business. It's a simple fact."

Soldiers Help Develop Emerging Army Systems

ARMY NEWS SERVICE (AUG 24, 2009)
Drew Hamilton

FORT BLISS, Texas—Soldier designs and feedback are helping shape combat systems being developed at White Sands Missile Range, N.M., and Fort Bliss.

Senior scout, Army Staff Sgt. Errol Caldwell (right) and his gunner, Army Sgt. Micheal Gimble from the 2nd Combined Arms Battalion place a Tactical Unattended Ground Sensor during test exercises at Fort Bliss, Texas, and White Sands Missile Range, N.M. The shape of the T-UGS was changed after receiving feedback from the soldiers using it. The new version seen here is easier to place and has better range and capabilities then before.
U.S. Army photo by Drew Hamilton

New Tactical Unattended Ground Sensors being developed by the Army modernization program are currently being tested by soldiers.

Loaded with cameras, infrared sensors, microphones, and seismic sensors, the T-UGS can be placed in an area that soldiers want to monitor. If any of the sensors are tripped, it will alert the soldiers who can then use the sensor data to determine what action to take.

"Just from the spike in the ground we can get an alert, and another [sensor] in the network can get an image ... it can take a picture of a three-man squad and get it up to get an ID of someone in the squad," said Lt. Col. Darren Klemmens, operations officer and deputy brigade commander with the Army Evaluation Task Force.

Software in the sensor package can also enable the sensors to make basic identifications on their own. It allows the sensors to tell the difference between things like tanks, wheeled vehicles, infantry and helicopters, and then sends that information to the soldiers monitoring the sensors.

What makes these sensors different from previous designs is that the batch the soldiers are using to develop possible tactics, techniques, and procedures have been redesigned and modified based on feedback from the soldiers themselves.

The previous design of the sensor packages looked like a pair of soda cans stacked on top of each other with a thick semi-rigid antenna sticking out of the top. The original intent was for the soldiers to bury most of the pod, with only the microphones, cameras, and antenna exposed.

Soldiers disliked that design, as it took too long to dig a proper hole to conceal the sensor, a task made even more difficult in rocky ground.

"It's all a learning process—you have to get out there and actually use this equipment," said Klemmens.

At the request of the soldiers, the casing was redesigned to a flat box-shaped casing about the size of a pie plate, and the semi-rigid antenna replaced with a lighter flexible "spider antenna."

The flat shape allows the sensor to be easily concealed by just covering it over with a little dirt or vegetation instead of requiring a hole to be dug. The requested antenna, along with a new transmitter, gives the system an increased range as well, allowing it to easily send data to soldiers several kilometers away in open terrain, without the need for repeaters or other range-extending equipment.

In dense terrain, each sensor can act as a repeater for the rest of the sensors in a network, which helps keep the sensors' range long in an environment where they can be more critical to a soldier's mission and personal safety.

"It gives us the opportunity to cover areas you otherwise couldn't. In restricted terrain, where you can't see very far, this gives you the ability to cover your back," said Army 1st Lt. John Auger, a scout platoon leader from the 2nd Com-

bined Arms Battalion, the unit fielding the new systems in the Force Development Test and Evaluation.

Ease of use was a big concern of the soldiers, who wanted to spend as little time as possible setting up the systems, giving them more time to focus on the mission itself. To facilitate this, the soldiers requested a connection-verification button be added.

The new feature now allows soldiers to check the connection status of a sensor with just the press of a button, allowing them to quickly confirm connectivity and place the sensor instead of having to continually adjust the location of the sensor and return to a base station or control vehicle to make sure it is working properly.

Another new feature added, based on soldier feedback, is a standardized connector for the various components of the sensors. The new connector makes the system easier to maintain in the field.

"We couldn't fix [broken sensors] before—now we can," said training developer, Army Capt. David Dilly.

The new connector also makes it easier to upgrade the sensors, as well as allow for the soldiers to customize the sensors to meet specific mission requirements. "Further development will allow for different combinations of sensors, and new sensors can be added as they are developed," Dilly said.

While the soldiers are in the field testing out the new sensors, they're still working on new ways to improve the system and make its deployment and use easier. One such improvement the soldiers are working on is a special backpack to carry the sensors.

"The soldiers are drawing up the design so I can take it to the contractor," said Dilly.

Forward Operational Assessment Teams Evaluate Performance of Systems, Help Save Soldiers' Lives

ARMY DEVELOPMENTAL TEST COMMAND
Mike Cast

Rugged terrain, a harsh natural environment, and the hazards of combat pose diverse challenges to the effectiveness and safety of military weapon systems. To support U.S. Army units facing these challenges, 11 Army Test and Evaluation Command Forward Operational Assessment (ATEC FOA) teams so far have deployed to Kuwait, Iraq, and Afghanistan, for assignments ranging from a few months to nearly a year or longer. They have been helping military units there to address the urgent needs that arise in the area of operations and to ensure that various military systems are effective and safe to operate.

"We collected and entered into the database 1,040 detailed surveys on 32 systems," said Army Col. Conrad Christman of the Intelligence Electronic Warfare Test Directorate, an Operational Test Command (OTC) directorate at Fort Huachuca, Ariz. He described the FOA mission as collecting user, leader, and maintainer data on specified systems being used in the combat theater throughout Iraq, Afghanistan, and Kuwait, and providing a summary of that data to warfighting commanders and acquisition decision makers so they can make informed decisions about enhancing the effectiveness of these systems.

Christman deployed in September 2008 as the ATEC FOA Team XI commander to direct its activities. Among the systems the team supported are the family of Mine-Resistant Ambush Protected vehicles, the Common Remotely Operated Weapon Station, the M14 Mod O Enhanced Battle Rifle, the MK46 and MK48 lightweight machineguns, and the Stryker Mobile Gun System. Christman said experimental test pilots from the Army Aviation Technical Test Center (ATTC) also conducted some "great work" while deployed to the combat theater.

Since the inception of the FOA program, the deployed teams have included experts from ATEC's Developmental Test Command (DTC), headquartered at Aberdeen Proving Ground in Maryland, OTC, and the Army Evaluation Center (AEC), whose headquarters also is located in Alexandria, Va.

Christman had assessment teams embedded in the Multinational Corps-Iraq (MNC-I), which included the 18th Airborne Corps, and also in the Multinational Division North, including the 1st Armored Division and later the 25th Armored Division. FOA team members were also embedded in the Multinational Division Baghdad, which included the 4th Infantry Division and later the 1st Cavalry Division, as well as in the Multinational Division South, comprising the 10th Mountain Division. This type of support was also provided to the commander of the Combined Forces Land Component, U.S. Army Central in Kuwait and the Combined Joint Task Force 101, comprising the 101st Airborne Division.

In peacetime, it can take several years for a system to go through the acquisition process and the testing and evaluation that goes with it. During the early stages of development, or when they have been upgraded, weapon systems and other test items undergo rigorous performance tests in DTC's specialized facilities at test centers across the United States. A wide spectrum of testing takes place, some of it on

road courses, ranges, and DTC facilities that simulate harsh environments. Testing also occurs in naturally harsh environments such as Yuma Proving Ground's sun-scorched desert terrain in southwestern Arizona and the deep-freeze climate found at the Cold Regions Test Center in Alaska.

Generally, following developmental testing, DTC test reports help system developers and Army evaluators determine the operational testing needed and whether systems are safe to operate. OTC, headquartered at Fort Hood, Texas, oversees the operational tests, often with soldiers operating a system during maneuvers. AEC uses all test data to prepare system evaluation reports for acquisition program managers and key Army decision makers.

But the current situation has been fraught with difficulties the Army could not anticipate before Sept. 11, 2001. While it became possible to add extra armor to tactical wheeled vehicles such as humvees, that could not be accomplished without better armor kits that had to be tested more rapidly than usual and shipped to the combat theater. Urgent needs required program managers to put systems through a variety of quick-turnaround testing. Slat armor for the Stryker, small unmanned aerial systems and ground vehicles, and the family of MRAP vehicles are all the result of collaboration between ATEC agencies and program managers.

Nonetheless, the Army cannot take a one-size-fits-all approach. A heavily armored tactical vehicle that works well on the relatively modern roads and highways in Iraq may not be the best solution for conducting missions in some of Afghanistan's rugged terrain and underdeveloped infrastructure. ATEC FOA team members in both countries are helping the Army answer these questions.

The CH-47F Improved Cargo Helicopter, one of the Army's heavy lifters among rotary wing aircraft, has seen its initial use in the combat theater of operations, said Army CW4 Sean Magonigal, an experimental test pilot for ATTC who deployed to Iraq to support the FOA effort attached to the Combat Aviation Brigade, 4th Infantry Division Mechanized.

"My tasking was to provide feedback to the PM [program manager] and support the unit in finding solutions to problems that may arise with the new aircraft," Magonigal explained. "I also was tasked to gather information on the tactics, techniques, and procedures used by the unit in the combat employment of the aircraft so that current and future flight test plans for the CH-47F at ATTC would be designed to test the aircraft in a manner that represents realistic usage in combat."

Army Sgt. 1st Class Victor Estrada, who shared the aviation-support mission with Magonigal in-theater, flew about 170 hours wearing night-vision goggles and during mission orientations. He had duties that went beyond the FOA support mission. Although he flew less than Magonigal, the troops he supported told him they appreciated his ability to juggle separate missions while in-theater.

"They loved all that we brought to the table to support their mission and were very curious about how the acquisition process worked," he said. "The ability and connections we have, being in the organization we are in, played vital roles in rapid-issue fixes from the program managers while we were in-theater. That paid dividends to the combatant commander and earned a newfound respect for the acquisition community."

Christopher Appelt of DTC's Aberdeen Test Center advised the FOA team on any issues related to armor and on ballistic threats ranging from small-caliber weapons to powerful improvised explosive devices. Drawing on his expertise as ATC's test officer for up-armoring the RG-31 MRAP vehicle, he corrected misconceptions about "field-expedient" up-armoring techniques that could be dangerous for soldiers.

"Some of these techniques prove harmful and actually decrease crew survivability, so it was important to provide them with any information we had from test experience," Appelt said. "The very same vehicles that we worked on at ATC, made their way into Baghdad a few weeks after I arrived. I was able to speak to end-users. For a developmental tester, this is a once-in-a-lifetime opportunity and was very humbling."

He said test engineers normally do not get to interact with the customers for the items that undergo developmental testing, especially not as the warfighters use this equipment in combat operations.

"What I learned from the entire experience is that what we do counts and saves lives," he added, "pure and simple."

Cast writes for the U.S. Army Aberdeen Developmental Test Center.

Missile Defense Moves from Testing to Fielding

AMERICAN FORCES PRESS SERVICE (AUG. 27, 2009)
Fred W. Baker III

WASHINGTON—Boosted by a few strong years of testing successes, much of the United States' missile defense technology that once was questioned is now ready to be fielded.

"A few years ago the question was, 'Could you even hit a missile with a missile?' We have proven we could do that well over 35 times," Army Lt. Gen. Patrick J. O'Reilly, the director for the Missile Defense Agency, said in an interview at the Pentagon Aug. 27.

O'Reilly said that 39 of the last 45 tries at stopping a test missile were successful. The failures were mostly at the start of the testing, and in the past few years all hit their mark, except one that had a manufacturing problem. It was fixed, and three weeks ago successfully hit its target in a test, O'Reilly said.

Most of the new technologies fielded will be to bolster missile defense for deployed troops. Right now, O'Reilly said, forward deployed bases are exposed to missile threats, and there is a large gap in U.S. capabilities to protect them.

This summer, both Iran and North Korea tested their ballistic missile systems. And several other nations have as many as a few hundred such missiles in their arsenals.

"We want to provide the same level of protection against ballistic missiles that we enjoy today against cruise missiles or against aircraft," O'Reilly said.

The Defense Department recently committed an additional $900 million toward fielding the Army's theater high altitude area defense mobile missile defense system. The agency has finished seven of eight required tests of the system, and O'Reilly said he expects to see it in the field next year. The Army also will get some new radar systems.

The Navy's Aegis-class ballistic missile defense ships are being equipped with some improved missiles. The Aegis ship's capability was demonstrated to the world when it stopped a crippled reconnaissance satellite over the Pacific Ocean before it re-entered the Earth's atmosphere in February 2008. The Aegis ships will have a second-generation interceptor fielded next year, O'Reilly said. And the Pentagon has proposed converting six more Aegis-class ships to provide additional theater missile defense coverage.

"This capability will provide protection in the theater against ballistic missiles—short-range missiles, medium range, and missiles up to ranges greater than 3,000 kilometers," O'Reilly said.

As much as $8 billion is slated for additional missile defense technologies in the future, the general said.

Two demonstrator satellites will be launched into space next month. The pair of satellites will "talk" to each other, extending the capabilities of other sensors in place to detect missiles. By 2012, the agency will test the satellites, launching an interceptor from an Aegis ship toward a test target. This will allow the ship to fire at a target that is beyond its own radar ranges.

The destroyer *USS Hopper* launches a standard missile 3 as it operates in the Pacific Ocean on July 30, 2009. The missile successfully intercepted a sub-scale, short-range ballistic missile launched from the Kauai Test Facility at Pacific Missile Range Facility Barking Sands, Kauai, Hawaii. The launch was the latest Missile Defense Agency test in conjunction with the Navy.
U.S. Navy photo

Eventually, O'Reilly said, the pair will be part of a larger constellation of connected satellites. Plans are to develop a satellite system that tracks missiles around the world.

"It's just an extremely exciting area," he said. "And all theaters across the world now are receiv-

ing missile defense command and control and will soon be receiving the capability."

In the next five years, extensive testing will take place with more than 56 flight tests, many including multiple missiles in the air at the same time, across the entire Pacific Ocean. In that testing, the agency will use a mix of satellites, unmanned aerial vehicles, ships, and ground-based radars.

Gates Cites Importance of Acquisition Reform

AMERICAN FORCES PRESS SERVICE (SEPT. 1, 2009)
Gerry J. Gilmore

WASHINGTON—It is imperative for the nation to get defense acquisition reform right, Defense Secretary Robert M. Gates said yesterday during a visit to Texas to tour the plants of two major defense contractors.

Americans are getting value for their tax dollars spent in the defense realm, Gates told *Bloomberg News* journalist Peter Cook while traveling to Fort Worth to tour a Lockheed Martin factory that makes the F-35 jet fighter. He later visited an L3 Communications plant in Greenville.

Taxpayers "certainly are getting more than their money's worth in terms of their men and women in uniform and the performance that they turn in," Gates told Cook. But acquisition reform is important to the nation's defense, he added, so that servicemembers continue to receive appropriate—and affordable—weapons systems and equipment needed to deter threats to the nation.

The acquisition process needs to move beyond the situation that developed over the years, Gates said, in which so many capabilities are added to a new platform or system under development that it exceeds budget and cannot be purchased in quantity or simply becomes unaffordable.

"We need to get past an era where the platforms become so expensive that we can only buy a small number of them," Gates explained. For example, he said, the high-tech, but costly, B-2 bomber lists for almost $2 billion each; accordingly, the department has purchased just 19 of the stealthy aircraft.

Rising costs, Gates added, deep-sixed plans to purchase 32 new-generation DDG-1000 destroyers. The Pentagon now will buy just three of the new ships, he said.

Such a state of affairs "doesn't help our military capabilities," he said.

"So, the key is getting control of this acquisition process," the secretary said. To do that, he said, it's imperative "that programs are being executed according to the budgets that have been established for them, and on the timelines established."

With the current tight economy, he said, consensus exists among officials in the Pentagon, Congress, and the White House "to try to address some of these acquisition issues that have built up cumulatively over a large number of years."

The new F-35 Joint Strike Fighter is an all-purpose aircraft that makes financial sense, Gates said. The F-35 will be used by the Air Force, the Marine Corps, and the Navy. Once in production, he said, the F-35's unit price will be at less than half the cost of the F-22 Raptor fighter that's tabbed for exclusive use by the Air Force.

The Defense Department is slated to purchase 187 F-22s, which Gates called "a great airplane." But finite defense resources compelled the Pentagon to favor the F-35, he said.

Improvement Plan Realigns Acquisition Wings As Directorates

AIR FORCE NEWS SERVICE (SEPT. 10, 2009)

WASHINGTON—Air Force officials will implement a new organizational construct for weapon systems acquisition that includes designating directorates, divisions, and branches in place of some current wings, groups, and squadrons.

Secretary of the Air Force Michael Donley and Chief of Staff Gen. Norton Schwartz announced the changes in a Service-wide memo Sept. 3. The memo, signed by both leaders, makes clear that realigning organizations under a directorate/division/branch structure is driven by one of five goals from the Acquisition Improvement Plan the secretary and chief announced in May. The full text of the memo is available online at <www.af.mil>.

The impact of realignment primarily will affect Air Force Materiel Command organizations. The targeted implementation date for AFMC is June 30, 2010. One Air Force Space Command organization, the Space and Missile Systems Center at Los Angeles Air Force Base, Calif., also is included in the wing-to-directorate realignment. The target implementation date there is Oct. 1, 2010.

Gen. Donald Hoffman, AFMC commander, said this change will involve a total command-wide effort, but it will generate several benefits.

The realignment is not a simple return to organizational designations AFMC officials once used before they adopted the

wing structure, AFMC planners say. The goal that underlies the realignment is to establish clear lines of authority and accountability within acquisition organizations, according to the secretary's and chief's memo.

Along with changing from wings to directorates, Air Force officials also will create several new program executive officer positions to decrease PEO span of control. A greater number of PEOs is needed to oversee execution of major acquisition programs, AFMC planners say. New PEO positions will be created at the directorate level and will be filled by both military and civilian personnel.

Additionally, AFMC officials will institute matrix-management in acquisition organizations. Matrix management brings together, under a single leader, people who report to different functional home offices to complete a particular program or project.

"This restructure embraces the differences between the acquisition and operational missions in the Air Force," according to the memo.

While realignment primarily will affect the three product centers in AFMC and the one in AFSPC, all of AFMC's centers will see some changes. AFMC planners say the realignment is "manpower neutral," meaning no net gain or loss of jobs will occur.

AFMC and AFSPC planners don't have answers yet to every question that civilian and military members of the acquisition corps may have about potential personal impacts, but they said they will keep the information flowing as the change process plays out.

The restructuring from wings to directorates also follows an Air Force senior leader decision to standardize the size of wings, groups, and squadrons across the Air Force. Wings now must have 1,000 or more members; groups, 400; and squadrons, 35.

"Most of our acquisition units were not large enough to maintain the appropriate wing, group, and squadron designations," Hoffman said. "Combining units to meet the size thresholds would have been major surgery and would have buried senior acquisition leadership at the squadron level or below."

Air Force Acquisition centers that will be restructured to directorates, divisions, and branches are:

- Air Armament Center, Eglin AFB, Fla., excluding the 46th Test Wing
- Aeronautical Systems Center, Wright-Patterson AFB, Ohio
- Electronic Systems Center, Hanscom AFB, Mass.
- Arnold Engineering and Development Center, Arnold AFB, Tenn.
- Air Force Security Assistance Center, Wright-Patterson AFB, Space and Missile Systems Center, Los Angeles AFB, Calif.

At the air logistics centers and the Air Force Nuclear Weapons Center, the Aircraft (Aerospace) Sustainment Wings, and Nuclear Systems Wing, respectively, will retain their designation, but subordinate groups and squadrons will convert to divisions and branches. Some aircraft sustainment wings and combat sustainment wings will consolidate their missions and be renamed aerospace sustainment wings.

The air logistics centers, which are large industrial facilities responsible for maintenance and sustainment of aircraft and other systems, are located at Robins AFB, Ga.; Tinker AFB, Okla.; and Hill AFB, Utah.

Logistics Vehicle Reaches Initial Operating Capability

HEADQUARTERS MARINE CORPS NEWS RELEASE (SEPT. 11, 2009)
David Branham

MARINE CORPS BASE QUANTICO, Va.—The Marine Corps' newest logistics vehicle—Logistics Vehicle System Replacement (LVSR)—has achieved initial operating capability. Fielding of the LVSR began stateside this past April for user trials and testing, with the Marine Expeditionary Forces (I MEF at Camp Pendleton, Calif., and II MEF at Camp Lejeune, N.C.); and in late August, fielding was completed at III MEF in Okinawa. Just three months ago in June, a ceremony was held at the manufacturing facility—Oshkosh Defense, Oshkosh, Wisc.—to mark the initial production and fielding of LVSR. LVSR replaces the 25-year old Logistics Vehicle System (LVS), which was also built by Oshkosh.

"LVSR will help address one of our [Marine Corps'] biggest challenges we face in Afghanistan: getting supplies, equipment, fuel, water, and heavy equipment into areas our Marines have to go," said Bill Taylor, Program Executive Officer Land Systems, Quantico, Va. "This vehicle is capable, it's mobile, it's disproportionately mobile compared to its size," he added.

The 10x10 vehicle is equipped with Oshkosh's TAK-4® independent suspension system. It has enhanced maneuverability from its four-axle steering capabilities and makes a complete 360-degree turn in nearly 84 feet. The LVSR will be used by the Marine Corps for the on- and off-road transportation of heavy payloads such as munitions, fuel, water,

and heavy equipment. The Marine Corps plans to acquire 1,592 LVSRs in cargo, wrecker, and fifth-wheel variants.

PM SKOT Enacts Modified Competitive Prototyping Strategy for the Hydraulic Systems Test and Repair Unit

ARMY PRODUCT MANAGER FOR SETS, KITS, OUTFITS, AND TOOLS
Craig Riedel

In January 2008, the Office of the Secretary of Defense enacted the Prototyping and Competition strategy to minimize situations where inadequate technical knowledge and risk assessments may result in restructuring actions, extended schedules, and increased program costs. The policy requires all pre-Milestone B and future Army programs to formulate acquisition strategies and funding for two or more competing teams producing prototypes through Milestone B. The Army's Product Manager for Sets, Kits, Outfits, and Tools (PM SKOT) employed a variation of OSD's competitive prototyping strategy during the acquisition of the Army's Hydraulic Systems Test and Repair Unit.

The HSTRU, an Army Acquisition Category (ACAT) III program, is a trailer-mounted mobile repair shop capable of performing diagnostic testing of hydraulic systems, and fabrication of various categories of hydraulic lines. It is an assemblage of commercial off-the-shelf equipment integrated into a fabricated enclosure built on a light tactical trailer chassis.

"Because of the nature of this program, it entered the life cycle pre-Milestone C and did not have a Technology Development Strategy [TDS]," said Army Col. John S. Myers, Project Manager for Joint Combat Support Systems (PM JCSS). "Applying a modification of the competitive prototyping strategy to the acquisition process would result in reduced program risk and increased competition."

The HSTRU was solicited so that a minimum of two requirements contracts, with a separate Contract Line Item Number (CLIN) for a prototype system, would be awarded to different vendors to produce an HSTRU. After completing independent evaluations of each of the prototype systems, the production CLIN of the contract would be executed by the vendor whose prototype system was determined to be the "best value" to the government.

"Both industry teams have delivered their respective prototype systems, which will undergo limited developmental test and evaluation, and will be independently reviewed by the Army's Training and Doctrine Command," stated Lt. Col. Brian Tachias, the Army's PM SKOT.

"After completing all critical test and TRADOC evaluations, the government will make a best value determination, and the selected prototype system will complete all regular processes for reaching Milestone C and entering production," added Myers.

Applying the modified competitive prototyping strategy to the HSTRU program has yielded some positive results, while simultaneously presenting some challenges.

"The ability to evaluate the prototype systems instead of relying solely on written proposal submission has numerous advantages," said Tachias. "It really provides technical evaluators a true sample of the final product that can be operated and tested for suitability."

Additionally, the industry teams participating in competitive prototyping acquisitions have an increased incentive to deliver high-quality and innovative hardware on schedule and within cost and performance measures.

Competitive prototyping acquisitions come at a premium; the cost of acquiring more than one prototype system and conducting limited test and evaluation increases research, development, test and evaluation (RDT&E) funding and manpower requirements. In the case of the HSTRU, the system technical manuals will not be prepared until a down-selection has been made because of RDT&E funding constraints.

Employing a modified version of OSD's competitive prototyping strategy only increases program acquisition costs by one percent, and total life cycle costs by approximately one third of one percent—which doesn't compare to the life cycle risk reduction benefits received through competitive prototyping.

"This acquisition experience has made it clear that future programs can benefit greatly by implementing OSD's full competitive prototyping policy," said Tachias.

PM SKOT is aligned under the management of the U.S. Army's PM JCSS. Their vision is to provide the Army and Joint Services with oversight of the life cycle for all SKOTs, while providing high-quality service, modernizing and modularizing current SKOTs, and optimizing the logistical footprint for future systems. They provide warfighters with SKOTs that are high-quality, durable, reliable, modernized, and deployable, and serve as a "one-stop shop" for life cycle management service.

Riedel is a systems acquisition manager for PM SKOT.

Providers in South Korea See Both Sides of the Electronic Medical Record

U.S. Army Medical Communications for Combat Casualty Care (MC4)
Bill Snethen

Patients often have the luxury of urgent care facilities in the U.S. for after-hours care. There, practitioners on call typically treat ailments based on the word of the patient, without visibility of the person's medical history or prior conditions.

The same occurs in battalion aid stations on U.S. posts for military personnel. The problem—the staff works with a fraction of the patient's medical picture and the treatments are rarely stored in digital format, leaving follow-on care providers with the same handicap.

This is not the case for the U.S. medical units in South Korea, where medical personnel are utilizing both the DoD's fixed facility electronic medical recording (EMR) system, Armed Forces Health Longitudinal Technology Application (AHLTA), and the battlefield system, Medical Communications for Combat Casualty Care (MC4), to reap benefits on both sides of the data flow.

HSTRU MX3 Mandus rear curbside view. This design concept features a task-oriented layout with equipment and consumables co-located on three sides of the shelter. Additionally, storage for the hydraulic hose is below the chassis deck , lowering the center of gravity and alleviating a crowded layout in the enclosure. Image courtesy PM SKOT

Army Capt. Christopher Mercer, physician assistant with the 1st Battalion, 15th Field Artillery Regiment at the Camp Hovey Combined Troop Aid Station (CTAS), South Korea, pulls weekend duty at an after-hours clinic at Camp Casey. Before he steps foot into the treatment room, he logs into AHLTA and reviews the patient's medical records that are often generated at lower levels of care using MC4.

"If a patient comes in suffering from sinusitis, I can see the person's allergies, the medications they're taking, and the previous treatments for the same condition," Mercer said. "The ability to view medical records generated at the aid station in AHLTA saves valuable time when I need to make decisions about a patient's care. The accessibility to the information is easy and immediate."

In 2007, MC4 initially fielded systems to the 2nd Infantry Division to support the unit's medical exercises and to streamline their medical supply management efforts. System use and provider familiarity with the system blossomed, resulting in six battalion aid stations (BAS) installing MC4.

The medical information gap between BASs and the fixed facilities has since been bridged. Clinical staff amassed more than 10,000 patient encounters using MC4, with each record visible at various levels of care.

Implementation of the ruggedized hardware first took place at the Camp Casey CTAS by the 210th Fires Brigade under the direction of Army Maj. Cordes Pryor, a provider with the 210th Fires Brigade and commander of the Combined Troop Aid Station at Camp Casey. Without prior MC4 experience, she began using it with some hesitation, but soon realized the time savings it afforded her and her staff.

"MC4 is a tremendous improvement over paper records," Pryor said. "Before I see a patient, I bring up their medical record in AHLTA-T [on MC4] and scan the information entered by the medics. I see their current symptoms, as well as any previous treatments they received. Many of the soldiers we see suffering from joint pain is the result of flat feet. I look over the notes to see if the patient has inserts, as well as if they are doing any weight training to strengthen the muscles. The electronic records save me a lot of time from flipping paper charts to find the information I need."

Pryor also covers shifts at the Camp Casey Family Health Clinic. She still reviews and documents patient notes digitally, but this time it is in the fixed facility EMR system—AHLTA. The benefit of having a compatible EMR system is the ability to view charts generated at the CTAS throughout the continuum of care.

"Patients arrive at the clinic requiring follow-up care and tests ordered by their local provider," Pryor said. "Today, they do not have to carry around a paper version of their medical history and we do not have to request records from the aid stations. The EMRs streamline the medical process so that we are able to treat patients more efficiently, while having the complete medical history at our fingertips."

Treatment Expedited Through an Integrated EMR

Army Staff Sgt. Stephen Cunningham, the treatment noncommissioned officer in charge with the 1st Battalion, 15th Field Artillery Regiment at Camp Hovey, recalls one patient visiting the CTAS and urgent care clinic multiple times. Initially, the soldier suffered from a dull ache in his abdomen that would not cease. Over time, the pain intensified and the soldier became anemic. Different medications and a change in diet did not solve the problem.

Mercer compared notes and test results from the aid station and the urgent care clinic. He determined that the patient needed a referral to the 121st Hospital at Yongsan for an upper endoscopy and surgery.

"The soldier was losing blood from an ulcer," Cunningham said. "If the condition continued to go untreated, the soldier would have had serious health issues. Having access to the notes and test results in both MC4 and AHLTA prevented duplication of tests and procedures, leading to faster diagnosis and treatment for the patient."

Building upon a soldier's medical history with the MC4 system also prepares the clinical staff to forecast future hurdles when they deploy to Iraq or Afghanistan. Cunningham reiterates this to the medics, often responsible for a patient's first digital medical record footprint.

"This is the same EMR system that I used when I deployed to Afghanistan in 2007," Cunningham said. "The use of MC4 in-garrison provides the vital day-to-day training required to properly use the system in the deployed environment. I know that if my medics are required to deploy at a moment's notice, they can step into any forward aid station and accurately capture a patient's medical information. This knowledge helps the medic, the soldier, and the unit."

For more information on the battlefield medical recording effort, visit <www.mc4.army.mil>.

Snethen writes for MC4 Public Affairs.

Robotics Rodeo Demos Technology to Save Soldiers' Lives

ARMY NEWS SERVICE (SEPT. 10, 2009)
Army Staff Sgt. Jason R. Krawczyk

FORT HOOD, Texas—With all the displays down, robots safely packed away, and evaluation sheets handed in, it was time to conclude the Fort Hood Robotics Rodeo. The end of the rodeo, however, signaled a new start for the exhibitors, who would return to their labs to read over evaluation sheets and begin to modify their robots based on soldiers' feedback.

"An event like this does take a lot to put together," said Dr. Grace Bochenek, director of the Army's Tank Automotive Research, Development, and Engineering Center, visiting from Warren, Mich. "We have learned a lot, and with the evaluations we will take more away from this. Let's move this robotics technology forward."

The four-day event started Aug. 31 and concluded Sept. 3 with a visit from Gen. Ann E. Dunwoody, commanding general of the U.S. Army Materiel Command.

"It is exciting to see soldiers and engineers working together toward the common goal of saving lives downrange," Dunwoody said. "The technology on display here will help revolutionize the way we fight wars and provide another piece of armor in our soldiers' protective arsenal."

More than 30 exhibitors participated in the Robotics Rodeo.

"The intent is to save soldiers lives. We are trying to demonstrate technology today to save soldiers' lives tomorrow," said Army Lt. Col. Barry "Chip" Daniels, robotics project officer at III Corps.

The event featured tiny robots that a soldier could throw through a window to get an idea of the enemy inside, to entire convoys of robots that were controlled autonomously.

This event brought soldiers, the robotics developers, and the science and technology community from across the Department of Defense together so the agencies could educate each other on state-of-the-art technology.

The developers and science and technology representatives educated the soldiers on what the current state of technology is. The soldiers educated developers on what they need in combat in Iraq, Afghanistan, and elsewhere around the world, Daniels said.

The exhibitors demonstrated their robots' capabilities to a select group at the R2D2 site. The first R2D2 range demonstrated the capabilities of smaller, autonomous, remotely operated mapping robots. The second range showcased remotely operated, autonomous vehicles and convoy operations.

"Each technology demonstrated at this site received feedback from 20 to 30 different people ranging from soldiers to electronic engineers," said Jeff Jaster, TARDEC deputy associate director for autonomous systems. "This feedback was compiled and will be reviewed for future robotic operations."

After the technology was demonstrated at the R2D2 site, it was moved to the Phantom Run site. This site gave the developers another opportunity to showcase their technology. Two large tents provided an area for exhibitors to set up, and larger robots were viewed outside the tents. Phantom Run also had two lanes set up so exhibitors could give attendees the chance to see the robots in action and operate them.

"In Iraq I used robots to investigate IEDs [improvised explosive devices], place C-4, and multiple other missions," said Army Sgt. Solomon McCabe, team leader, 87th Engineer Company, 8th Engineer Battalion, 36th Engineer Brigade. "I see a lot of potential in the unmanned robots, and I think they will make a difference in the wars."

By 2015, one-third of the operational ground combat vehicles within the armed forces must be unmanned, Jaster said, citing an objective in the Fiscal Year 2001 National Defense Authorization Act. He said the Robotics Rodeo gave developers and the science and technology community a foothold toward this goal. The overall mission is to save troops' lives.

"Every time I get a robot back that has been blown up, it makes me glad that the robot got it and not a soldier," Jaster said.

Krawczyk serves with III Corps Public Affairs.

Justin Murray, a 10-year-old member of his school's robotics team, demonstrates the ease of operating a robot's arm at the Fort Hood Robotics Rodeo, held Aug. 31 - Sept. 3, 2009, at Fort Hood, Texas. Photo by Army Staff Sgt. Jason R. Krawczyk.

Air Force Officials Begin Search for New Aerial Tanker

AIR FORCE NEWS SERVICE (SEPT. 25, 2009)
Air Force Master Sgt. Russell Petcoff

WASHINGTON—Senior Department of Defense and Air Force officials announced the rollout of the KC-X Acquisition Program at a Pentagon briefing Sept. 24. Air Force leaders are seeking a replacement for the KC-135 Stratotanker that has been a stalwart of the tanker fleet for more than 53 years.

Today, the department is announcing its acquisition strategy for a replacement aerial refueling tanker fleet for the aging KC-135 and KC-10 fleet, said William J. Lynn, deputy secretary of defense. He termed the search to be a "best value" competition, not one based solely on cost.

"We tried to play this straight down the middle," Lynn said.

Michael Donley, secretary of the Air Force, and Ashton B. Carter, under secretary of defense for acquisition, technology, and logistics, also took part in the hour-long briefing.

Defense Secretary Robert M. Gates returned the KC-X program to the Air Force during an address he gave at the 2009 Air Force Association Air & Space Conference and Technology Exposition at the National Harbor Convention Center, Oxon Hill, Md., Sept. 16.

"I don't need to belabor the importance of getting this done soon and done right," Gates said. "I have confidence that the KC-X selection authority is in good hands with the Service's leadership team of Secretary Donley and [Air Force Chief of Staff] General [Norton) Schwartz."

Donley said the KC-135 first joined the Service's inventory in August 1956, with the youngest one dating to 1964. The ever-accumulating age of the tanker fleet is driving this effort, he said.

"We need to move on with this recapitalization," Donley said. Air Force officials hope to announce a KC-X decision in the summer of 2010. Currently, there are 415 KC-135s in the Air Force inventory. The KC-X program calls for 179 new tankers over 15 years, according to Donley. The first production KC-X delivery is planned for 2015, Donley said, with a planned initial operating capability of 2017.

"As we integrate the KC-X into the fleet, we will begin evaluating our future tanker needs and begin work on the second phase, KC-Y," Donley said. A third phase is called KC-Z. KC-X must be a highly capable and "Go to War on Day 1"-ready aircraft for the warfighter, Donley said.

"We expect the KC-X to be far more capable than the KC-135," Donley said. The KC-X has several mandatory requirements, according to Donley. It must have:

- a permanent centerline drogue to refuel receptacle and probe-equipped aircraft
- a receiver receptacle to allow it to refuel from KC-135s, KC-10s, or another KC-X
- an integrated Large Aircraft Infrared Countermeasures system, which the current tankers do not have
- improved communications, navigation, and air traffic capabilities to allow it global airspace access.

Carter said the source selection strategy will be objective to ensure contractors bidding on KC-X know what it takes to win. He said it'll also be transparent, so when a winner is chosen everyone can understand why that bidder won.

Carter said the Request for Proposal favors "no one but the warfighter and taxpayer."

Petcoff writes for Secretary of the Air Force Public Affairs.

Vice Chief Outlines Need for New Ground Combat Vehicle

ARMY NEWS SERVICE (SEPT. 16, 2009)
J.D. Leipold

WASHINGTON—Army Vice Chief of Staff Gen. Peter W. Chiarelli said today's non-contiguous battlefield demands the development of platforms capable of operating in multiple environments.

A blue-ribbon panel, which first met in June, has authored white papers discussing various visions of the next ground combat vehicle, Chiarelli told Army and business leaders at the Association of the U.S. Army Institute of Land Warfare breakfast, Sept. 10.

The GCV is meant to fill the capability gap left after the manned ground vehicle program was canceled from Future Combat Systems earlier this year, Chiarelli said, adding that he expects the vehicles to be fielded within seven years.

"We've made a point to seek input from advocates and critics alike, from DoD, the Hill, academia, retired officers, noncommissioned officers, general officers and combat veterans, key allies, and our sister Services," Chiarelli said. "We talked about the operating environment, platform characteristics, platform threats, COTS [commercial off the shelf] versus R&D [research and development] starts, realistic requirements, and network consideration."

The vice chief said the GCV represents one of the most important combat development and acquisition decisions the Army is going to make in the long term.

Many of the systems the Army fights in today were created for the cold war during a time when the world was "linear-based and un-networked," Chiarelli said.

Those old systems aren't suitable today because many aren't upgradeable to house the network, which he referred to as the "critical piece of the entire modernization program."

"The GCV will focus on sustainability more than we ever have done in procuring an Army major weapons system," he said. "The network architecture will be open with plug-and-play capability to accommodate not only the network of today, but the network of the future as well."

He added that the first vehicle the Army needed to field would be an infantry fighting vehicle; and based on the Army's experiences in Iraq and Afghanistan, mobility was raised to the top as one of the key operational design criteria. He said the current fleet of 6,300 armored personnel carriers, the M-113, will gradually be divested because they can't be upgraded to accommodate the future network technologies.

"The soldier is in fact the heart of the network ... a robust net," he said. "As the chief says, 'soldiers get four things from the network: I know where I am; I know where my friends are; I know where the enemy is; and, I can bring precision fires on that enemy.'"

Chiarelli said network capability must be interoperable, affordable, and capable of incremental upgrades, which will continue to give soldiers an edge to battlefield situational awareness since they are now the source of most intelligence and most game-changing decisions.

"The information they receive over the network isn't simply nice to have," he said. "Today, the small unit has as much access to information now as what used to be restricted to division headquarters."

Every single soldier must have the ability to at least call off fire to avoid fratricide or civilian casualties, he added.

"We will combine a network and radio strategy in affordable increments—all part of those capability packages—and each one of the capabilities packages will include the network," Chiarelli said. "The key is to build a single network across a joint environment with a common set of operating procedures capable of connecting the separate systems and receiving additional systems or programs in the future."

He added that the capacity of the network has grown from 50 megabits to more than six gigabits per second over the course of the war, which is an exponential increase of 121 times. There are three basic components to the modernization package—brigade combat team capability, network capability sets, and vehicle strategy, Chiarelli said. Along with ground vehicles, he said the Army is also working to modernize other elements of the force such as aviation, intelligence, surveillance and reconnaissance, weapons systems, and the tactical wheeled vehicle fleet.

Chiarelli said full-spectrum operations is something the Army sees as soldiers moving up and down the spectrum of conflict from lethal to non-lethal. He said the situation on the battlefield has become increasingly dynamic as soldiers conduct a combination of offensive and defensive operations along with stability operations.

The challenge for the Army in a fiscally constrained environment is to balance modernization and personnel costs, he said, adding that personnel costs have a great impact on the ability to modernize.