

### 'Iron Man' Suit's Process Important to DoD, Official Says

DOD NEWS, DEFENSE MEDIA ACTIVITY (FEB. 4, 2015)

Jim Garamone

MacDILL AIR FORCE BASE, Fla.—The Tactical Assault Light Operator Suit is being designed to give protection and capabilities to U.S. special operators, but the process of designing it may be as revolutionary as the suit itself, said U.S. Special Operations Command officials.

TALOS started 18 months ago, after incidents downrange caused SOCOM to take a hard look at how special operators are outfitted.

"We've put a lot of great technology on the battlefield, but have we really taken a step back and taken a clean sheet and said for the next five, 10, 15 years—'do we need what we've got now, or are there other game-changing technologies we can incorporate?'" James Geurts, SOCOM's acquisition executive, said during a recent interview.

#### TALOS is an Important Program

Geurts said there are two fundamental reasons for the TALOS program. The first is the most obvious—DoD needs to examine new ways to protect and enable special operations service members.

"It's not just body armor; it's all the things that go into that," he said.

This includes sensors, heads-up displays, an exoskeleton to reduce the load special operators carry, medical sensors, and much, much more.

The second reason keys on the question, "Are there new ways we can redesign how we acquire capability for the force?" Geurts asked.

Geurts used the examples of Kickstarter and collaborative crowd-sourced designs. He also pointed to the strides 3D printing/manufacturing has made.

#### Appreciation of Technology

Special Operations Command is uniquely positioned to do both, he said. "We're a joint force, we value technology, we've got inherent capabilities to acquire it, and we have a long history of always looking to exploit whatever is available rapidly and get it on the battlefield," Geurts said.

The Army, Navy, and Air Force have responsibility to man, train, and equip forces. The Services and Defense Agencies

have their own acquisition systems, with their own strengths and weaknesses, just like SOCOM.

"The key to me, is how do we take the strengths of both—just like we do operationally—so we're both better," Geurts said.

SOCOM's advantages include nimbleness, agility, and adaptability, Geurts said. The Service branches, he added, have the advantage of scale, amplification, large networks, and deep benches.

#### Small, Joint Acquisition Task Force

The TALOS effort is a good example of what SOCOM can bring to the acquisition process, Geurts said. The command has a small joint acquisition task force concentrating on the suit. They have opened the process up to an incredible number of companies, government agencies and entities, and academia. They also held a "rapid prototyping event" last year, he said, that brought together all these players. It allowed the range of people to exchange the range of experiences, products, and processes.

The hands-on event strengthened the network that has grown up around the suit, Geurts said. This acquisition strategy has worked beautifully for TALOS, he said, which has made tremendous progress.

"If we can close the distance between operator, acquirer, technologist, then I can create things that each would not independently create on their own," he said. "[We're] always worried about not providing a solution to the operator because they didn't know to ask for it or not taking advantage of technology because I didn't know how [the operators] could use it.

"The real strength is the network," Geurts said. "I'm not a person who thinks we should find one perfect acquisition process. I don't think it exists. We buy a multitude of things. At SOCOM, what I'm looking for is: 'How do I have a multitude of tools and an acquisition workforce that knows which tool to pick for the job?'"

Creating the next aircraft would probably call for a disciplined acquisition process that looks hard at the requirements and the trade-offs, Geurts said. Replacing a sensor on an aircraft, he added, may call for a more agile and adaptable process.

#### Tailored for Invention, Not Acquisition

"If I'm inventing something that doesn't exist, neither of those processes is likely the best," Geurts said. "TALOS is

putting together another tool we haven't fully exploited in DoD that's tailored for invention, not acquisition."

For this process the question becomes how does SOCOM "crowd-source from all entities of government, industry, and academia, and form partners and leverage all that to get a diverse input," Geurts said.

TALOS has attracted companies and entities not used to working within a DoD system. "The wider and more diverse the players, the greater the solution set we can come up with," he said.

Another question SOCOM is wrestling with is how to create "rolling collaboration events" and not just a "once-and-done," Geurts said.

TALOS already has spun off 12 or 14 things that are a by-product of the research. "The end-product is certainly important, but the new things we acquire along the way and the new processes we develop are just as important," he said.

### **Greenert: Science, Technology Put Navy on Bow Wave of Innovation**

*DOD NEWS, DEFENSE MEDIA ACTIVITY (FEB. 4, 2015)*

*Claudette Roulo*

WASHINGTON—It wasn't long ago that unmanned vehicles such as aerial drones were the stuff of science fiction, and now they're turning up under the Christmas tree, Navy Adm. Jonathan W. Greenert said here today.

Delivering the keynote address at the Naval Future Force Science and Technology Expo, Greenert, the chief of naval operations, warned of the erosion of the nation's technological lead.

Until recently, satellite communications and imagery were accessible only to a very few, he said. Satellites were expensive and required infrared cameras, the admiral said. Now, the technology is available commercially, and it's cheap, Greenert noted.

The result is that some of the United States' long-standing technological advantages are starting to be challenged, he said.

The department recognizes this situation, the admiral said, and Defense Secretary Chuck Hagel recently called for innovations to support the department's new offset strategy.

### **Science, Technology as Force Enablers**

Science and technology serve as force enablers, Greenert said. Today's innovations allow the Navy to set its course for tomorrow, he said, by enabling a bold, relevant, and capable force.

The Navy's research and development programs operate on two basic time scales, the admiral said. In the long term, scientists and engineers conduct basic research, Greenert said, while short-term programs are intended to "get wet quick," to meet current warfighter needs.

These programs have a long history of delivering game-changing technology for the Navy, he said, noting examples such as quiet propulsion, GPS, and the Aegis Ballistic Missile Defense System.

### **Future Weapons Systems**

And the Navy will continue to rely on science and technology into the future, particularly as it looks to divest itself from gunpowder and rocket propellant, the admiral said.

Laser weapons systems and electromagnetic railguns are the future of naval weaponry, Greenert said. By moving away from volatile chemical propellants, he explained, ships can carry more ammunition, operate more safely, and decrease their dependence on the logistical chain.

Both platforms can also shift the cost curve, the admiral said.

Laser weapons systems cost about \$1.00 per shot to operate, he said, and following several months of testing aboard the USS Ponce, in December the weapon was authorized for self-defense.

While railguns are slightly more expensive to operate, Greenert acknowledged, at about \$25,000 per round, they are still significantly less expensive than the missiles they are intended to supplement or replace. With a range of more than 100 nautical miles, railguns have the potential to conduct precise naval surface fire support or land strikes.

### **Unmanned Underwater Vehicles**

The Navy also seeks to improve the stamina of its unmanned underwater vehicles, the admiral said.

As the size of the submarine fleet decreases, opportunities and requirements for smarter, more reliable and more compact UUVs will increase, he said.

The vehicles face threats not just from the enemy, Greenert noted, but from the operating environment. Advances in

range, autonomy, and endurance will translate to an increase in mission scope, the admiral added.

### **Lock Your Cyber Doors**

Cyber security is Greenert's biggest worry. It is a key requirement for all systems and weapons, the admiral noted, and can't just be bolted on after the fact.

Intellectual property theft means that the nation is hemorrhaging its best technology, he said, creating strategic vulnerabilities and giving adversaries years to develop countermeasures.

The Navy is counting on science and technology professionals to keep it on the bow wave of innovation, Greenert said. And not just in the digital realm. There are unlimited opportunities to reuse or repurpose existing technology, the admiral said.

### **Official Shares DoD's Technology Goals With Industry**

*DOD NEWS, DEFENSE MEDIA ACTIVITY (FEB. 5, 2015)*

*Terri Moon Cronk*

WASHINGTON—The assistant secretary of defense for acquisition laid out the Defense Department's areas of emphasis and goals for technology for an audience of industry and government officials at the Naval Future Force Science and Technology Expo.

Because DoD faces budget and investment pipeline challenges, Katrina G. McFarland said, industry and government leaders should think about what they can contribute to offset the challenges of what she called "the three nots."

"Technological superiority is not assured, [research and development] is not a variable cost, and time is not recoverable," McFarland said.

### **Technological Superiority**

To keep up with superiority in technology, DoD is looking for "effective counters" in electronic warfare, long-range air-to-air missiles, radars operating in nonconventional environments and bandwidths, counter-space capabilities, long-range and more accurate ballistic and cruise missiles, improved undersea warfare capabilities, and cyber and information operations.

"We're trying to find effective, innovative, low-cost solutions against low-cost targets," she said.

### **Time Not Recoverable**

"Time is not recoverable," McFarland said, citing historical military solutions and noting that DoD focused on GPS to

give the military "locations, precision-guided munitions, and stealth aircraft [technology] that we relied on from the Gulf War to today."

And now, she added, DoD must figure out a "new offset strategy."

### **Research and Development**

And with research and development not being a variable cost, McFarland said, "the combined effects of increased technology challenges with the current budget challenges have led us to a very uncomfortable place."

History shows that when research and development investments have declined, those programs that had forethought are the ones that survived. "The people who think carefully about what we have to face in our future are the ones who will position us, and that is you," she told the audience.

### **Better Buying Power Initiative**

A few years ago, when DoD officials saw an economic decline in its future, the department developed the Better Buying Power initiative.

BBP 1.0 prepared the acquisition community and services to improve spending and get as much as possible from less money. Building on 1.0, BBP 2.0 focused on addressing challenges to national security that exist today and are likely to exist in the future, as well as affordability in the existing and future systems and developing technology.

Better Buying Power 3.0, now in a draft stage, takes the lessons of 1.0 and 2.0 and focuses on technological superiority, McFarland said, encouraging audience members to read the 3.0 draft and submit input to help in finalizing it.

The main topics of Better Buying Power 3.0 are:

- Achieve affordable programs;
- Achieve dominant capabilities while controlling life-cycle costs;
- Incentivize productivity in industry and government;
- Incentivize innovation in industry and government;
- Eliminate unproductive processes and bureaucracy;
- Promote effective competition;
- Improve tradecraft in acquisition of services; and
- Improve the professionalism of the total acquisition workforce.

"Our goal is to achieve dominant capabilities through technical excellence and innovation," McFarland said. "And the purpose is to continue strengthening our culture of cost-consciousness, professionalism, and technical excellence."

### **Threat Mitigations**

McFarland said DoD is focused on four specific mitigations to existing and emerging threats.

"Our enhanced emphasis is on countering weapons of mass destruction, electronic warfare, delivering space-based capabilities with or without a space layer, and cyber," she said. To mitigate such issues, DoD will make program improvements rather than start new ones, McFarland explained. The department also will work on how it does business to stay ready for threats, and to be able to insert new technology quickly and efficiently, she added.

"That's what we need from industry," she said.

McFarland noted that this isn't the first time the Defense Department and industry have faced fiscal challenges. "We know we're going through troubled times," she said. "We've done it before and succeeded. ... Take that energy [and] focus on things that bring what's naturally inside of you to the front."

### **STRATCOM Chief: U.S. Must Maintain Space Dominance**

*DOD NEWS, DEFENSE MEDIA ACTIVITY (FEB. 6, 2015)*

*Jim Garamone*

WASHINGTON—The space domain is changing, and the U.S. military must remain ahead of these changes to maintain the nation's military dominance, the commander of U.S. Strategic Command said here today.

Navy Adm. Cecil D. Haney spoke at a Peter Huessy Breakfast Series seminar sponsored by the Air Force Association, the Reserve Officers Association, and the National Defense Industrial Association.

The playing field in space is changing, and not always to the advantage of nations that are peaceful and have democratic governments, Haney said. "Today, our nation is dealing with a global security environment that is more complex, dynamic, and volatile than at any time in our history," he added. The security environment features multiple actors operating across all domains. Many actors challenge U.S. democratic values in many ways, the admiral said.

### **Tensions with Nation States, Ungoverned Environments**

"In addition to significant tensions involving nation states," Haney told the audience, "we are in an environment that is flanked with numerous ungoverned or ineffectively governed areas that are breeding grounds for bad actors and violent extremist organizations." These groups, he added, also use

space and cyberspace to recruit and spread propaganda—including misinformation—in support of their causes.

"Perhaps of greater concern, however, is the proliferation of these emerging strategic capabilities attempting to limit our decision and maneuver space that ultimately impacts strategic stability," Haney said.

The admiral focused on the emerging capabilities and what it means for the United States. Space is getting cluttered, he said, noting that it is more "congested, contested, and competitive." That alone makes U.S. capabilities increasingly vulnerable, he said.

### **Congestion in Space**

Congestion is a huge problem for Strategic Command. More than 17,000 objects the size of a softball or larger are in orbit today, the admiral said, and hundreds of thousands of smaller, untracked objects are circling the Earth at orbital speeds.

Roughly 1,200 of those objects are satellites, Haney said. The rest are debris, increasingly threatening operational satellites.

Complicating this already crowded environment is the increase of small satellites, which also pose a threat, the admiral said. "Consider for a moment the devastating effects just one collision could have on our financial and economic sectors and our ability to conduct military operations," he said. As more countries develop space capabilities, the problem will grow, the admiral said. North Korea has been busy upgrading launch facilities, Haney noted.

"Iran, just this past week, successfully launched a satellite into orbit after a string of failures," he said.

China has publicly stated that its goal for the next decade is to outperform all other nations in space, investing large amounts of money in increasing the number of platforms in every orbital regime, and increasing their influence, Haney added.

### **Nations Seek to Take Away U.S. Strategic Advantage**

Countries also are working to take away America's strategic advantage in space, the STRATCOM commander said. "U.S. national security space systems are facing a serious growing threat," he added. "For example, multiple countries have developed and are frequently using military jamming capabilities designed to interfere with satellite communications and global positioning systems."

China and Russia warrant the most attention, the admiral said. "Both countries have acknowledged they are developing—or have developed—counter-space capabilities," he said. "Both countries have advanced directed energy capabilities that could be used to track or blind satellites—disrupting key operations—and both have demonstrated the ability to perform complex maneuvers in space."

Space also plays a large role in 21st-century deterrence, Haney said. "To effectively deter adversaries—and potential adversaries—from threatening our space capabilities, we must also understand their capabilities and their intent, and make it clear that no adversary will gain the advantage they seek by attacking us in space," the admiral said. "We must apply all instruments of power and elements of deterrence."

### **Operational Planning Comes First for STRATCOM**

Strategic Command is working to ensure the United States maintains the strategic advantage in space today. Operational planning is first with the command, the admiral said, ensuring it is prepared for all phases of potential conflict. This means characterizing the operational environment, allowing timely and accurate warning and assessment of threats to senior leaders including the president, Haney said.

Operationally, the admiral said, STRATCOM must protect and defend space capabilities using new tools and new tactics, techniques, and procedures. The command, he said, also must use new partnerships and new command and control relationships.

All this is happening at a time of constrained budgets, he noted.

"I am pleased to see the president's budget for fiscal 2016 recognizes the growing and demonstrated threat to our vital space assets—assets our forces are reliant upon and assume will always be there," Haney said.

"We are early in the process, but let me make clear: Any retrograde in the president's budget could jeopardize these investments and diminish our asymmetric advantage in space, exposing our nation to significant risk in this foundational area," he said.

### **Air Force Chief: Force Modernization Not Optional**

*DOD NEWS, DEFENSE MEDIA ACTIVITY (FEB. 12, 2015)*

*Army Sgt. 1st Class Tyrone C. Marshall Jr.*

WASHINGTON—It is imperative to modernize the Air Force despite difficult budgeting choices that will have to be made, Air Force Chief of Staff Gen. Mark A. Welsh III said today in Orlando, Florida.

Speaking during the Air Force Association Air Warfare Symposium and Technology Exposition, the general discussed the need for force modernization.

"We must modernize the Air Force," he said. "This isn't optional; we must do it. And it will be painful, because we have to make very difficult choices to get the money inside our topline at current funding levels to do it."

### **Aging Fleets**

Welsh explained how aging fleets and less personnel strength can affect the Air Force's mission.

"Most of you will remember Desert Shield and Desert Storm," he said. "When we deployed in 1990 to that conflict, the United States Air Force had 188 fighter squadrons—188. In the FY '16 budget, we'll go to 49; 188 to 49."

Welsh noted in 1990, there were 511,000 active duty airmen; now the Air Force has 313,000—a 40 percent smaller force. "There is no excess capacity anymore," he said. "There is no bench to go to in the Air Force. Everything's committed to the fight."

"I'd love to be able to tell you that, that much smaller force is more modern, more capable [and] younger, but I can't," Welsh said.

Providing perspective on the age of the fleet, Welsh said during Desert Storm the Boeing B-17 Flying Fortress wasn't considered for bombing Baghdad. "If we had used the B-17 in the first Gulf War," he said, "it would have been five years younger at that time than the B-52, the KC-135, and the U-2 are today."

"We have 12 fleets of airplanes ... that qualify for antique license plates right here in the great state of Florida," Welsh said. "And we have four that qualify for ... [AARP]."

### **NASCAR Analogy**

The general used a NASCAR race picture led by the #43 Air Force-sponsored stock car to further drive home his point. "Four laps before this picture was taken, the 43 car had a four- to five-car-length lead," Welsh said.

"For the last couple of laps, the #41 and #55 cars have been steadily closing," he said. "The gap's shrinking just like our technology lap, just like our capacity gap is shrinking."

When do we get to the point, Welsh asked, where no matter how fast #43 tries to accelerate, the momentum gained by 41 and 55 puts them in the lead?

“That’s the game we’re playing,” he said. “Tough game; maybe a dangerous one.”

### Resetting the Force

Welsh said Air Force leadership has been trying to reset some areas for the last couple of years. “Not because they’re broken,” he said, “not because we’re not doing great work, but because we need to reset some things. We’ve done this before.”

Following World War I, Welsh said, the Army Air Corps noted the “big lessons” learned, which were reconnaissance and pursuit. Then, he said, during World War II the lessons of strategic bombardment became clear.

“We came out of World War II with this idea that strategic bombardment was the future of air forces,” Welsh said. Except for a tactical diversion in Korea, he said, the Service’s leaders focused on building the best strategic Air Force they could.

The general said Vietnam yielded tactical lessons learned, which led to a “really good” tactical and strategic Air Force. Then 1990 came, Welsh said, “and we made Operation Desert Storm look ridiculously easy.

“It wasn’t that easy, but we were that good and that large,” he said. “And then for the last 25 years, we’ve been fighting a different type of enemy—a shadowy enemy, harder to pin down, harder to isolate.”

Serving in more of a counterinsurgency supporting role, Welsh said, the Air Force “revolutionized and gave birth” to an entirely new generation of intelligence, surveillance, and reconnaissance capability, and a new understanding of how it could be used.

“Where we’ve come in the last 25 years in ISR is stunning,” he said. “We operationalized space capabilities; we jumped into the cyber domain. But it’s been about 25 years and that’s about the cycle for these resets—it’s time to do it again.”

### Next for the Air Force

Welsh noted there are specific areas in need for reset—namely infrastructure. “We’ve spent a lot of time lately taking money out of this [area] to pay for operational activity as our budgets were stressed,” he said.

“But there is infrastructure in our Air Force which creates mission capability,” Welsh said. “I’ll refer to it as critical mission infrastructure. This isn’t something [like] you can

just not build another dorm and it won’t hurt you over time ... this is stuff that will keep you from developing combat capability.”

This infrastructure, he said, includes test facilities, training ranges and simulation, education infrastructure, and nuclear infrastructure—things that the Service cannot do without.

“We have got to get back,” Welsh said, “to a persistent, consistent investment in this kind of infrastructure, or our Air Force will break 10 years from now.”

### Priorities of AF Acquisition Outlined at Symposium

AIR FORCE NEWS SERVICE (FEB. 18, 2015)

Air Force Staff Sgt. Christopher Gross

ORLANDO, Fla.—William A. LaPlante, the assistant secretary of the Air Force for Acquisition, outlined the Air Force’s top acquisition priorities during the Air Force Association’s annual Air Warfare Symposium and Technology Exposition Feb. 13, in Orlando, Florida.

LaPlante pointed out five key areas of focus which included:

- Get high priority programs right and keep them on the right track.
- Improve relationships and transparency with stakeholders.
- Own the technical baseline for important programs.
- Build “Better Buying Power” to improve business and small business in order to achieve best program outcomes.
- Build long-term strategy, resiliency to peer competitors, experiment and innovate—strategic agility.

The high-priority programs included KC-46A Pegasus and F-35A Lightning II programs. They’re the daily operation of the Air Force, and LaPlante said they just need to keep on progressing to ensure they’re done right.

His second priority dealt with the complexity of the acquisition world. “We have really put effort into trying to make ourselves more transparent,” he said. “Acquisition is hard to understand, it’s filled with acronyms, it’s filled with history, [and] we don’t talk about it clearly.

“The chief and the secretary both instinctively realized that we’re not going to make progress together on bringing prices down, bringing costs down, and innovating if we in the Air Force do not have regular, meaningful conversations with industry,” he continued.

One way of improving the lines of communication between the Air Force and industry is through “Bending the Cost Curve initiative,” a 2014 Air Force initiative to address escalation in weapon system costs and development times.



Dr. William A. LaPlante talks to attendees of the Air Force Association's Annual Air Warfare Symposium and Technology Exposition Feb. 13, 2015, in Orlando, Fla. LaPlante is the assistant secretary of the Air Force for Acquisition. He spoke about Air Force procurement strategy and challenges.

U.S. Air Force photo by Scott M. Ash

It's designed to improve dialogue with industry partners, expand competition among traditional and non-traditional industry partners, and improve internal Air Force acquisition processes.

LaPlante insisted there needs to be a regular venue of discussion outside of the source selection and competition process. He said those discussions will bring ideas of innovation cost cutting and boosting efficiency.

One way to boost the efficiency of the work being done is to hold program offices to higher standards. LaPlante also discussed the Better Buying Program 3.0, based on the principle that "continuous improvement is the best approach to improving the performance of the defense acquisition enterprise."

He used cost capability analysis charts to demonstrate effective tradeoffs between cost and warfighting capabilities

as an example of how the Air Force is improving the performance of defense acquisitions.

"There will be a much better understanding and a way for us to know what we're paying for and willing to pay for," he said.

LaPlante also discussed the long-term strategy of the Air Force and how talking about it now is a plus for the industry.

"I think the Air Force has been really good in the last few years about not changing requirements on its programs," he said. "We need to continue with the discipline, but then we have to establish them early enough to give industry a chance so they're not at risk."

However at the same time, there needs to be strategic agility incorporated into those plans, he said.

"Strategic agility means we also have to deal with the unknown and we have to assume that we're going to operate

these systems in ways we will not predict," he said. "We're going to have the adversary doing things we cannot predict."

### **Department of Defense Selected Acquisition Reports (SARs) (As of December 31, 2014)**

*DEPARTMENT OF DEFENSE NEWS RELEASE (MARCH 9, 2015)*

The Department of Defense (DoD) has released details on major defense acquisition program cost, schedule, and performance changes since the December 2013 reporting period. This information is based on the Selected Acquisition Reports (SARs) submitted to the Congress for the December 2014 reporting period.

SARs summarize the latest estimates of cost, schedule, and performance status. These reports are prepared annually in conjunction with submission of the President's Budget. Subsequent quarterly exception reports are required only for those programs experiencing unit cost increases of at least 15 percent or schedule delays of at least six months. Quarterly SARs are also submitted for initial reports, final reports, and for programs that are rebaselined at major milestone decisions.

The total program cost estimates provided in the SARs include research and development, procurement, military construction, and acquisition-related operations and maintenance. Total program costs reflect actual costs to date as well as future anticipated costs. All estimates are shown in fully inflated then-year dollars.

The current estimate of program acquisition costs for programs covered by SARs for the prior reporting period (December 2013) was \$1,619,437.8 million. Final reports submitted for the annual December 2013 and for the June 2014 and September 2014 quarterly exception reporting periods were subtracted. Initial reports for the annual December 2013 and for the June 2014 and September 2014 quarterly exception reporting periods were added. Finally, the net cost changes for the June 2014 and September 2014 quarterly exception reporting periods were incorporated.

Download the SAR Summary Tables at [http://www.defense.gov/pubs/SAR\\_December\\_2014.pdf](http://www.defense.gov/pubs/SAR_December_2014.pdf).

### **DoD Seeks Novel Ideas to Shape its Technological Future**

*DOD NEWS, DEFENSE MEDIA ACTIVITY (FEB. 24, 2015)*

*Cheryl Pellerin*

WASHINGTON—The Defense Department is seeking novel ideas to shape its future, and officials are looking to industry, small business, academia, start-ups, the public—anyone,

really—to boost its ability to prevail against adversaries whose access to technology grows daily.

The program, called the Long-Range Research and Development Plan, or LRRDP, began with an Oct. 29 memo by DoD acquisition chief Frank Kendall. The memo said the LRRDP will identify high-payoff enabling technology investments that could help shape future U.S. materiel investments and the trajectory of future competition for technical superiority. The plan will focus on technology that can be moved into development programs within the next five years.

### **Full and Immediate Support**

"This effort is of the highest priority and requires full and immediate support from across the department," Kendall wrote.

On Jan. 28, the department published a request for information, seeking to identify current and emerging technologies or projections of technology-enabled concepts that "could provide significant military advantage to the United States and its partners and allies in the 2030 timeframe."

During a recent media roundtable here, LRRDP program lead Stephen P. Welby, deputy assistant secretary of defense for Systems Engineering, said the RFI deadline has twice been extended, and that more than 300 responses have come in.

"We have gotten some very talented folks replying to the RFI," Welby said. Ideas are coming from small businesses, from traditional defense sources, and "some from surprising places we hadn't thought might respond," Welby said. "And that's exactly what we're hoping to get from this," he added.

### **Defense Innovation Initiative**

The LRRDP is part of the larger Defense Innovation Initiative, an effort to harness the brightest minds and cutting-edge technology to accelerate the way the department innovates and operates.

Deputy Defense Secretary Bob Work is managing and integrating the initiative's five technology areas, one of which is the LRRDP. In a summer meeting, Welby said, Work "introduced and drew out a historical analogy to where we are today."

In 1973, the nation was moving out of the Vietnam War, where the military had been focused on counterinsurgency. Budgets were declining. And the Soviets, among other things, gradually had begun to build up their strategic nuclear forces, Work said during a January speech.

In the summer of 1973, with the dangers of nuclear escalation growing, what would later become the Defense Advanced Research Projects Agency, or DARPA, launched the first LRRDP program to give the president and the Joint Force better tools for responding to a Warsaw Pact attack, the deputy secretary said.

The group recommended going after conventional weapons with near-zero miss capability—"a very simple idea that had profound implications throughout the entire defense program," he added.

In 1977, the DoD leadership directed DARPA to integrate all of the promising military technologies into a system of systems for deep attack. The program, Assault Breaker, called for aircraft with light-area-sensor cueing and surface-to-surface ballistic missiles that could dispense a blanket of anti-armor submunitions.

### **Picking a Competitive Advantage**

Assault Breaker demonstrated its capabilities in 1982 at the White Sands Missile Range in New Mexico, and Work said the Soviets were watching.

"The implications of that single demonstration ... really caused them to pause," he added.

Ultimately, Assault Breaker led to development of the Air Force's 17 E-8 Joint Surveillance Target and Attack Radar System, or JSTARS, aircraft, its air-to-ground BLU-108 sensor-fuzed weapon with terminally guided submunitions, and the long-range, surface-to-surface Army Tactical Missile System called ATACMS.

"We had picked a competitive advantage that we knew our adversary, the Soviets, could not duplicate and therefore injected uncertainty in their minds, changing their war-fighting calculus," Work explained.

The joint force took over Assault Breaker, the deputy secretary said, "and we continued to build [the advanced capability] even in an era of declining budgets, starting in 1985."

### **Demonstrating the Capability**

U.S. forces demonstrated the capability, including that of the E-8C JSTARS side-looking airborne radar system with moving target indication, to the rest of the world in 1990 and 1991. This was during Operation Desert Storm, Work said, "when the Iraqi heavy formations built on the Soviet model were virtually reduced to an array of targets."

Forty-two years after the plan's inception, the second iteration of LRRDP is still accepting idea submissions, Welby said, noting that the LRRDP program page at the department's Innovation Marketplace website features a conspicuously placed green box that says, "Share your ideas."

Submissions should focus on technology-enabled capabilities that could enter formal development in the next five to 10 years, the RFI says, offering military advantage during the 2025 to 2030 timeframe.

The LRRDP is looking for relatively mature technologies that can be applied in novel ways for a new kind of system capability, emerging technologies that can quickly be turned to new military capabilities, or technologies for nondefense applications that can offer new military capabilities.

### **Technology Priorities**

Five technology priority areas include space, undersea technology, air dominance and strike, air and missile defense, and other technology-driven concepts.

When program officials find an idea interesting, one of five teams will be sent to speak with the submitting person or company, Welby said, adding that in mid-summer, the best ideas will be shared with Defense Secretary Ash Carter.

"The customer for this is the leadership of the department," he said, "to help them think through the future and think differently about what the world's going to look like."

### **Capabilities Must Match Future Threats, Army Leader Says**

*DOD NEWS, DEFENSE MEDIA ACTIVITY (FEB. 24, 2015)*

*Jim Garamone*

WASHINGTON—Success in future armed conflict boils down to ensuring the capabilities put in place today can match the threats of the future, deputy commanding general for futures, U.S. Army Training and Doctrine Command, said here today.

Army Lt. Gen. H.R. McMaster, who also serves as director of Army Capabilities Integration Center, told the audience at International Security's "Future of War" conference that because threats have changed, American responses must change as well.

Nations were the source of threats in the past, he said. Today, they also come from nonstate actors and the confluence of networked insurgent and terrorist organizations bridging over into transnational organized crime networks and having access to capabilities they didn't have in the past.

The capabilities include communications, mobilized resources, and access to destructive technologies. The Islamic State of Iraq and the Levant is one such group, the general said, and Russia's use of special operations forces under cover from regular forces in Ukraine also serves as an example of why the U.S. military must balance continuity in the nature of war with change in the character of warfare.

### **Width, Depth, Context**

Officials should look at war "in width, depth and in context," McMaster said. Width means looking at war over time to understand how war and warfare have changed, and to understand the possibilities and limitations of the future. By depth, he said, he means looking at a campaign and examining all aspects of it, "so you see war as it is: chaotic and profoundly human."

Finally, he said, officials should consider war in the context of what the United States wants to achieve politically in armed conflict, what the military's role is in American society, and what needs to happen for societies to generate and sustain the will to engage in armed conflicts.

### **America's Differential Advantage**

American military power is joint power, the general noted, as the military uses land, air, maritime, space, and cyber capabilities together, with each dependent on the other. "America's differential advantage over the enemy has to do with skilled soldiers, sailors, airmen, Marines, and teams with multiple technologies that give us the advantage," McMaster said.

Capitalizing on that is the way forward for the military, he added. In Ukraine, Russian President Vladimir Putin is engaged in a limited war for limited objectives, McMaster said. "Go into Ukraine, take some territory at very low cost and very low risk, and then portray the international community's reaction as escalatory. How do you cope with that?" he asked.

One of the ways to do it is forward deterrence, which entails ratcheting up the price of such actions, the general said.

"We undervalue deterrent capabilities at our own peril," he added.

### **Countering Anti-access Technologies**

Being able to operate in contested areas will be a problem for the future, McMaster said, and all Services must be concerned about countering anti-access technologies and strategies, including in cyberspace.

"From the Army perspective, we are going to have to project power outward from land into the maritime, air, space, and cyber domains to ensure our freedom of movement and action in those domains and restrict the enemy's use of them," he said.

Enemies will increasingly use urban areas as terrorist safe havens or as launching points for missiles or other long-range strikes, McMaster said.

"For the Army, we're going to have to conduct what I call expeditionary maneuver," he added. "That's rapidly deploying forces to unexpected locations to bypass anti-access. But that can't just be a force that gets there. It has to be a force that has the mobility, protection, and lethality to operate."

### **Defense Department Approves Joint Improvised Explosive Device Defeat Organization Reorganization**

*DOD NEWS, DEFENSE MEDIA ACTIVITY (MARCH 13, 2015)*

*Nick Simeone*

WASHINGTON—The Defense Department has approved a realignment of the Joint Improvised Explosive Device Defeat Organization, or JIEDDO, with the goal of improving oversight and accountability, a Pentagon spokesman announced today.

Deputy Defense Secretary Robert Work approved an organizational realignment of JIEDDO, Army Col. Steve Warren told reporters. The change will see it transition from a jointly manned activity to a combat support agency under the authority, direction, and control of the under secretary of defense for acquisition, technology and logistics, he said.

### **Transition Preserves Capabilities**

Warren said the "decision preserves the central capabilities [and] strengthens oversight and accountability." He called the realignment the culmination of a process that began last year when the department determined that it was time for the organization to transition.

JIEDDO was first stood up as an Army task force in 2003 to rapidly counter the threat posed by the growing number of improvised explosive devices in Iraq, which had become the largest cause of casualties among U.S. troops there.

### **DoD to Boost Modernization of Weapons, Capabilities**

*DOD NEWS, DEFENSE MEDIA ACTIVITY (MARCH 17, 2015)*

*Cheryl Pellerin*

WASHINGTON—This year, the Defense Department will move aggressively to reverse the trend of chronic underinvestment in weapons and capabilities, the deputy defense secretary said here today.

Bob Work spoke this morning about defense modernization and the department's proposed fiscal year 2016 budget before an audience attending the McAleese/Credit Suisse Defense Programs Conference.

The bottom line, he said in prepared remarks, is that "because of budget uncertainty and restrictions imposed by Congress, and because of our unrelenting focus on the readiness of forward deployed forces, we're chronically underinvesting in new weapons and capabilities."

Work added, "That should give all of us pause because our technological dominance is no longer assured."

### **Modernization = Technological Superiority**

The U.S. military's technological superiority is directly related to its modernization accounts, the deputy secretary said, so this year the department is moving to redress the long-deferred modernization to stay ahead of competitors and potential aggressor nations.

Work said the White House has helped by approving about \$21 billion in added requirements over the Future Years Defense Program.

"This came with added funding, which has allowed us to make targeted investments in space control and launch capabilities, missile defense, cyber, and advanced sensors, communications, and munitions—all of which are critical for power projection in contested environments," he said.

The White House also added funding to help the department modernize its aging nuclear deterrent force, Work said.

### **Supporting Ongoing Operations**

The department's fiscal 2016 base budget request is \$534 billion, or \$36 billion above the FY16 sequestration caps, he said, adding that it's "only the first year of a five-year Future Years Defense Program. When considering fiscal years 2016 through 2020, our planned program is approximately \$154 billion over the sequestration caps."

The department also is asking for \$51 billion in overseas contingency operations funding, Work said, "to support our campaign against the extremist [Islamic State in Iraq and the Levant], ongoing operations in Afghanistan, and other operations in the Central Command area of responsibility."

The global demand for U.S. forces remains high, particularly for deployable headquarters units, intelligence, surveillance and reconnaissance assets, missile defense, and naval and

aerospace forces. The global operating tempo also remains high, he added.

Together, the deputy secretary said, these requests provide funding needed to recover readiness over the next several years, invest in long-deferred recapitalization and modernization, and meet global demands placed on the military by the National Security Strategy.

### **The Ragged Edge**

"The leaders of this department believe firmly that any significant reduction in funding below what is in the president's budget, or a broad denial of the reform initiatives that we have proposed to Congress, would mean the risks to our defense strategy would become unmanageable," the deputy secretary said.

"Quite frankly," he added, "we're at the ragged edge of what is manageable."

Adding to the pressure on defense systems, potential competitors are developing capabilities that challenge the U.S. military in all domains that put space assets and the command and control system at risk, Work said.

"We see several nations developing capabilities that threaten to erode our long-assured technological overmatch and our ability to project power," he added.

These include new and advanced anti-ship and anti-air missiles, and new counter-space, cyber, electronic warfare, undersea, and air attack capabilities, Work said.

### **Erosion of Technical Superiority**

In some areas, he added, "we see levels of new weapons development that we haven't seen since the mid-1980s, near the peak of the Soviet Union's surge in Cold War defense spending."

The department, Work said, is addressing the erosion of U.S. technological superiority through the Defense Innovation Initiative, a broad effort to improve business operations and find innovative ways to sustain and advance America's military dominance for the 21st century.

"The DII's leading focus is to identify, develop, and field breakthrough technologies and systems," he said, "and to develop innovative operational concepts to help us use our current capabilities in new and creative ways."

The ultimate aim is to help craft a third offset strategy, he added.



Deputy Secretary of Defense Bob Work speaks at the McAleese/Credit Suisse Defense Programs Conference held at the Newseum in Washington, March 17, 2015.

Photo by Air Force Master Sgt. Adrian Cadiz

### **Third Offset Strategy**

After World War II the United States used nuclear weapons development to offset Soviet numerical and geographic advantage in the central front, and again changed the game in the 1970s and 1980s with networked precision strike, stealth, and surveillance for conventional forces, Work explained.

Now, he said, “we will seek to identify new technologies and concepts that will keep the operational advantage firmly in the hands of America’s conventional forces, today and in the future.”

Central to the effort is a new Long-Range Research & Development Planning Program, the deputy secretary said.

The LRRDP was created to identify weapons and systems in the force that can be used in more innovative ways, promising technologies that can be pulled forward, and long-range science and technology investments that can be made now for a future payoff.

### **Invitation to the Table**

Technologies that might be associated with a new offset strategy are being driven by the commercial sector, he said.

These include robotics; autonomous operating, guidance, and control systems; visualization; biotechnology; miniaturization; advanced computing and big data; and additive manufacturing like 3-D printing.

“The third offset strategy is an open invitation for everyone to come to the table ... to creatively disrupt our defense ecosystem. Because we’ll either creatively disrupt ourselves or be disrupted by someone else,” Work said.

### **Game-changing New Technologies**

Funding dedicated to the effort includes the department’s annual \$12 billion in science and technology accounts, and the FY 2016 budget request creates a reserve account to resource projects expected to emerge from the DII, he said.

"The FY 2016 budget submission also invests in some fantastic, potentially game-changing new technologies that we can more quickly get into the force," Work added, "as well as longer range research efforts."

Over the Future Years Defense Program, for example, the department is investing \$149 million in unmanned undersea vehicles, \$77 million in advanced sea mines, \$473 million in high-speed strike weapons, \$706 million in rail gun technology, and \$239 million in high-energy lasers.

And, he said, a new Aerospace Innovation Initiative will bring people together to develop a wide range of advanced aeronautical capabilities to maintain U.S. military air dominance.

### **Solving Operational Challenges**

Work said the department's innovation must be "broad-based and rooted in realistic war gaming—a big priority of mine—more experimentation, and new concept and leadership development to enable our people to adapt to situations we can't yet imagine."

The third offset strategy is looking to solve specific operational challenges, the deputy secretary said, using the electromagnetic spectrum as an example.

"Electronic Warfare is often regarded as a combat enabler, but more and more it is at the actual forefront of any conflict," he said. "To ensure we remain ahead in this increasingly important space, today I'm signing out a memo that establishes an Electronic Warfare, or EW, Programs Council."

### **Electronic Warfare Programs Council**

The senior-level oversight council will have the lead in establishing and coordinating DoD's EW policy and will be co-chaired by Under Secretary of Defense for Acquisition, Technology and Logistics Frank Kendall and Vice Chairman of the Joint Chiefs of Staff Navy Adm. James A. Winnefeld Jr., he said.

Compared to the platforms that carry EW suites, the deputy secretary added, it is a relatively small investment but has the potential for a very high payoff.

"Our potential competitors seek to contest the EW space, an area where we retain a decided lead," Work said. "But that lead is tenuous, and we believe that there has been insufficient focus on EW across the department."

### **McHugh: Acquisition Reform Remains Top Army Priority**

ARMY NEWS SERVICE (MARCH 18, 2015)

David Vergun

WASHINGTON—"Historically, the Army's track record on acquisition programs is too often a tale of failure," Army Secretary John M. McHugh told senators.

McHugh was joined by Army Chief of Staff Gen. Ray Odierno during a Senate Armed Services Committee hearing on the defense authorization request for fiscal year 2016 and the Future Years Defense Program, March 18.

There have been "too many underperforming or cancelled programs, too few successful fieldings of developmental designs, and far too many taxpayer dollars wasted. We know this and we will do better," McHugh said.

The Army's duty is to "prudently use the scarce resources that the American people provide through all of you," he said, adding that from his first day in office, he has "sought and supported numerous reforms and efficiencies, from improving our procurement process to drastically cutting out headquarters. We take stewardship very seriously."

During the last five years, the Army has made significant strides in reducing bureaucracy and improving oversight, although much more needs to be done, McHugh said.

Odierno said that the expansion of the bureaucracy has to be addressed because it adds "so much time and cost to all our programs."

Besides a bloated bureaucracy, Odierno suggested taking a hard look at the role of life cycle management and logistics, and the role of the Service chiefs in the acquisition process, meaning he and the Army need more say in that process.

"There's a message that gets sent throughout the acquisition force that they don't work for the uniformed military, they work for the civilians," Odierno warned. "And I think that's a dangerous message, because I think our experience in support of the process is very important and I think we should play a bigger role in approving where we're going."

The part about "where we're going," he said, includes such things as milestones and how the requirements are established within the acquisition process.

Although saying the Army needs to do an even better job with acquisition reform, Odierno pointed to efficiencies gained by the Army within its own budget.



Army Secretary John M. McHugh testifies during a Senate Armed Services Committee hearing on the defense authorization request for fiscal year 2016 and the Future Years Defense Program, March 18, 2015.

U.S. Army photo

For example, “we’ve taken advantage of our warfare reset program to reduce depot maintenance by \$3.2 billion. We are reducing our reliance on contractor logistics, saving nearly \$2 billion this year,” he said.

Besides that, about \$12 billion will, over time, be saved through the aviation restructure initiative, or ARI, said Odierno, referring to moving Apache helicopters from the Guard to the active force in exchange for active Black Hawk helicopters to the Guard.

Another efficiency the Army has created, he said, is the reorganization of “brigade combat teams throughout the force, eliminating overhead and maximizing our combat capacity.”

And finally, “we’ve eliminated nearly 12,000 positions by reducing all two-star and above headquarters by 25 percent and today we continue to find ways for collective training efficiencies,” Odierno said.

### **Tenuous House of Cards**

The president’s budget of \$126.5 billion for the active Army “represents the bare minimum needed for us to carry out our missions and execute and meet the requirements of our defense strategy,” Odierno said.

“It is, in fact, a tenuous house of cards,” he said.

In other words, he explained, for the \$126.5 billion budget to work, all of the Army’s proposed compensation reforms must be approved. And, all force structure reforms must be supported, to include the ARI. And, the Army must be allowed to eliminate \$500 million a year of excess infrastructure.

Absent those reforms, the Army would face a \$12 billion shortfall, he said.

If sequestration were to return, that would add another \$6 billion for a total of an \$18 billion shortfall, he said. That

would mean “we could no longer execute the defense strategic guidance.”

“Anything below the president’s budget compromises our strategic flexibility and inadequately funds readiness, and degrades an already underfunded modernization program and impacts our ability to conduct simultaneous operations and shape regional security environments,” Odierno said. “It puts into question our capacity to deter and compel multiple adversaries. And if the unpredictable does happen, we will no longer have the depth to react.”

“We’re mortgaging our future for today” by not doing what needs to be done, Odierno concluded.

Would not doing what needs to be done result in the loss of soldiers placed in harm’s way? a senator asked Odierno.

Yes, he responded. There would be a higher likelihood of risk for anyone—soldier, sailor, airmen, or Marine—placed in harm’s way.

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### **Army Science Advisor Discusses Technology Issues at Lightning Forge**

*U.S. ARMY RESEARCH, DEVELOPMENT & ENGINEERING  
COMMAND PUBLIC AFFAIRS (MARCH 18, 2015)*

*Dan Lafontaine*

ABERDEEN PROVING GROUND, Md.—A U.S. Army science advisor engaged with soldiers during the Lightning Forge exercise to address equipment challenges.

The environment in Hawaii presents specific issues not seen in most of the Army’s areas of operations, said Maj. Jim Czora, with Army Reserve Sustainment Command, Detachment 8.

“The climate and environment in the tropics is different from what a lot of our military equipment sees in the States or Europe theater,” he said. “The Pacific is very humid and corrosive relative to other operational environments.

“It has an impact on everything from the soldiers’ clothing to their equipment. That type of environment has more challenges regarding keeping soldiers and equipment operating at peak efficiency.”

Czora talked with soldiers, from privates to sergeants major, Feb. 23 to March 4, to understand their technology needs and issues during Lightning Forge.

Lightning Forge 2015, a 25th Infantry Division training exercise, was the final preparation for the 3rd Brigade Combat Team before heading to a Joint Readiness Training Center rotation at Fort Polk, Louisiana.

“Our job is to fit in with the soldiers. We’re not to be different from them. We don’t want them to feel uneasy about talking to us about what they see and issues they’re having,” said Czora, a Reservist for 26 years, initially enlisted and now an officer. He works in the private sector as a materials engineer.

The U.S. Army Research, Development and Engineering Command’s 30 science advisors, both uniformed officers and Army civilians, provide a link between soldiers and the command’s thousands of subject matter experts at its seven centers and laboratories. The Reserve 20-member detachment augments the full-time FAST advisors.

A significant concern of soldiers in Hawaii is the red dirt that stains all types of gear—uniforms, body armor, boots, and helmets, Czora said. Soldiers would need new uniforms when they are deployed outside Hawaii.

“Everything gets stained red, and it’s an issue specific to Hawaii. The stains don’t come out,” he said.

Czora submitted a request for information to RDECOM’s Natick Soldier Research, Development and Engineering Center to check the chemistry of the soil and see whether there is a better way to clean soldiers’ gear.

In total, Czora submitted six RFIs to RDECOM research centers during the two-week exercise.

Many of the soldiers previously had not seen a science advisor participating in a field exercise, he said.

“The 25th Infantry Division operational training areas are challenging for soldiers, commanders, and their equipment because what they see in the tropical environment is different from what many other units see,” he said. “Everybody was very motivated and enthused that the Army had folks like us around. They opened their doors.

“It was a new idea. They were excited to see that there were folks like us really checking into things that they’re having issues with.”

RDECOM is a major subordinate command of the U.S. Army Materiel Command. AMC is the Army’s premier provider of materiel readiness—technology, acquisition support,



Soldiers assigned to 3rd Brigade Combat Team, 25th Infantry Division execute the Lightning Forge exercise before heading to a Joint Readiness Training Center rotation at Fort Polk, Louisiana.

U.S. Army photo

materiel development, logistics power projection, and sustainment—to the total force, across the spectrum of joint military operations. If a soldier shoots it, drives it, flies it, wears it, eats it, or communicates with it, AMC delivers it.

### G-4 Aims to Make Army Logistics ‘Expeditionary’ Again

ARMY NEWS SERVICE (MARCH 19, 2015)

J. D. Leipold

WASHINGTON—The Army’s senior logistician said one of his top priorities and challenges was to make the Army an expeditionary force again, one where readiness is not scheduled, but the force is consistently sustained and ready to move on demand.

“We have new missions all around the world everyday—nine of our 10 divisions are committed to those missions outside the United States,” said Lt. Gen. Gustave F. Perna, Army G-4, during an Association of the U.S. Army breakfast meeting, March 19. “We are increasing our presence and capability in

places we didn’t think we were going to be...but we have not deployed forces in an expeditionary manner since 2003... and our logistics skills have atrophied.”

Perna reminded the audience that during operations in Iraq and Afghanistan, the Army executed the Army Force Generation, or ARFORGEN, model and understood how to schedule soldiers and units going in and out of theaters. He said ARFORGEN became a predictable, redundant, and repetitive model that was supported by forward operating bases.

“As a result of that predictability, we made decisions that worked very well for us at the time—like establishing theater-provided equipment and left-behind equipment sets while relying heavily on contractors to do maintenance and supply accountability for us,” he said. “Decisions like these took unit leaders and soldiers out of the equation—essentially separating ourselves from these readiness tasks of running the Army from day-to-day and ensuring it was expeditionary and ready to go.”



Lt. Gen. Gustave F. Perna, Army logistics chief/G-4, outlined his three lines of effort to make the Army back into an expeditionary force. Perna spoke during the monthly Institute of Land Warfare breakfast of the Association of the U.S. Army, March 19, 2015.

Photo by J.D. Leipold

In some cases, he said, those approaches led to adjusting standards downward or lowering expectations about maintenance, supply accountability, and deployability.

“The Army cannot afford this approach anymore—we cannot afford it either in a financial way or a requirements standpoint,” he said.

Perna said that when he became the G-4 six months ago, the Army secretary and chief of staff described their visions on what the Army needed to do to win in complex environments and that would be to, “develop agile and adaptive leaders who must be ready and modern to ensure the Army is globally responsive and regionally engaged.”

The G-4’s priorities toward that effort are focused on three lines of effort: leadership development, readiness—tactically and strategically—and support of the Army Operating Concept and Force 2025.

“Under leadership development, we will realign the sustainment brigades underneath each of our division headquarters,” he said. “This will strengthen our home-station relationships, allowing us to identify and manage logistics talent on a broader scale, develop our leaders, and increase esprit de corps down into division and corps’ levels.”

He said that to be expeditionary again, the Army’s 270,000 logisticians need to re-learn how to do operational logistics on the battlefield, “like how to refuel an armored brigade on the move—a lost art,” he said.

“Second, in our readiness line of effort—we’re fielding our new information system, the Global Combat Service Support-Army [GCSS] and it’s a huge success and a game-changer in the logistics force,” Perna said. “The positive impact from GCSS will result from the creation of data-driven supply, maintenance, and property management that is unheard of in today’s Army.”

The G-4 team is also developing a business intelligence capability using data from the GCSS to provide visualization tools necessary for leaders at all levels, he added. "Future GCSS-Army increments will include aviation maintenance, ammunition management, and management of Army Prepositioned Stocks or "go-to-war" equipment that is strategically placed around the world.

"Third, in our Force 2025 line of effort, we're applying innovation and technology in support of the Army Operating Concept and future requirements," Perna said. "One example is that we work together executing items like condition-based maintenance or CBM—it's about to come to fruition.

"We have 1,700 vehicles in our fleet which are capable of CBM and we're already seeing significant savings in millions of dollars in executing preventive maintenance versus reactive maintenance," he noted. "We are moving forward in solid position in executing CBM in the aviation community—our most important piece of equipment on the battlefield besides our soldiers is aviation."

Weighing in on sequestration, Perna said should that happen, the Army will not be able to reset its equipment, which means the life cycle will not be expanded, nor will the Army be able to train its soldiers in expeditionary logistics.

"We will not be able to improve our force projection and onward movement in an expeditionary battlefield," he said. "We will not be able to extend our lines of communication into the theater of operations because we will not have done the necessary work to facilitate the relationships and build the capabilities from our industrial partners."

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### **Threat Reduction Agency Stands Up Nuke-focused Directorate**

*DOD NEWS, DEFENSE MEDIA ACTIVITY (MARCH 27, 2015)*

*Cheryl Pellerin*

WASHINGTON—The Defense Threat Reduction Agency has created a new directorate focused on supporting the U.S. nuclear mission, DTRA Director Kenneth A. Myers III told a House panel this week.

At the hearing, Myers and other members of the Defense Department community that counters weapons of mass destruction discussed successes and enduring challenges of their mission area before the House Armed Services Emerging Threats Subcommittee.

While delivering his testimony, Myers made the announcement.

"I want to share with the committee our standup of a new directorate that is focused on our support to the nuclear deterrent and our stockpile," Myers said.

### **Elevating the Nuclear Support Mission**

The goal of DTRA, based at Fort Belvoir, Virginia, is to elevate its nuclear support mission to meet the expectations of the Nov. 14, 2014, DoD Nuclear Enterprise Review, the recommendations of which focused on oversight, investment, personnel, and training.

"It is our top priority," Myers said, adding that the Nuclear Enterprise Support Directorate will be fully operational later this spring.

DTRA is co-located with, and Myers also directs, the U.S. Strategic Command Center for Combating Weapons of Mass Destruction.

Myers said DTRA also addresses national security priorities like biological and chemical threats, and used the agency's work with Ebola and in Syria as examples of its capabilities.

### **National Security Priorities**

"In both cases we had the expertise to evaluate a serious threat. We developed the needed technologies in close coordination with the organizations represented at this table," he added, "and we provided planning and execution support to all aspects of the operations."

Now, Myers said, Ebola cases in West Africa continue to decline and 600 metric tons of Syrian chemical materials have been destroyed.

DTRA now is involved in counterproliferation efforts to help Ukraine, he added, specifically Ukrainian border guards. The agency is scheduled to provide \$39 million worth of equipment, including bulldozers, armored trucks, graders, thermal imagers, patrol boats, and concertina wire, Myers said.

"We don't carry out military operations, but we provide the tools so that our colleagues can," he said in written testimony, listing some of the agency's recent accomplishments.

### **Countering Emerging Threats**

DTRA developed a massive ordnance penetrator, called the MOP, that's designed to hit deeply buried targets. DTRA also provides U.S. Special Operations Command with counter-WMD tools and equipment.

"We are playing a leadership role in developing vaccines and therapeutics to battle Ebola and other infectious diseases," Myers said.

The agency also is developing advanced situational awareness tools to help DoD stay ahead of emerging threats, he said, and enhancing the capabilities of partners and allies who work alongside the United States to counter WMD.

In his remarks to the panel, Eric Rosenbach, assistant secretary of defense for homeland defense and global security, said the state of the world today makes it increasingly likely that a state or a nonstate actor could use a weapon of mass destruction.

With that in mind, he said, "it literally is the top priority of DoD and the U.S. government to try to prevent an attack like this from happening."

### **Strategy to Counter WMD**

Last June the Defense Department issued a new whole-of-government Strategy to Counter Weapons of Mass Destruction, Rosenbach said in written testimony, "to reflect our evolving thinking and ensure that all our components are focused on the same lines of effort, objectives and supporting activities."

The strategy describes three approaches in countering WMD, he added—preventing acquisition, containing and reducing threats, and responding to crises.

Rosenbach said the last element of the strategy focuses on activities and operations for managing and resolving complex WMD crises.

"This goal involves either taking kinetic action against hostile nonstate actors who acquire WMD ... and who we must assume would be prepared to use them," he said, "or ensuring that we and our partners are prepared to mitigate the effects of any WMD use or spread of an infectious disease ... to ensure the homeland remains safe and our operations abroad can continue."

### **Reducing Incentives to Acquire WMD**

The strategy, Rosenbach said, also set the following supporting objectives:

- Reducing incentives to acquire, possess and employ WMD;
- Increasing barriers to WMD acquisition, proliferation and use;
- Managing WMD risks from hostile, fragile or failed states and safe havens; and

- Denying the effects of current and emerging WMD threats through layered, integrated defenses.

In his remarks to subcommittee members, Dr. Chris Hassell, deputy assistant secretary of defense for chemical and biological defense, explained that chemical and biological threats are dynamic and threaten U.S. troops and allies, and civilians around the world.

Hassell oversees, integrates, and coordinates the DoD Chemical and Biological Defense Program in cooperation with the secretary of the Army as executive agent, he added.

### **Chemical and Biological Defense**

Chemical and Biological Defense Program components include the Joint Staff J-8 Joint Requirements Office for Chemical, Biological, Radiological and Nuclear Defense; DTRA's Joint Science and Technology Office for Chemical and Biological Defense; the Joint Program Executive Office for Chemical and Biological Defense; and the Chemical and Biological Defense Test and Evaluation Executive, which establishes test policy and standards, the deputy assistant secretary said in written testimony.

The program conducts research and develops technologies for a range of chemical defense capabilities, Hassell said, including detection, medical countermeasures, decontamination, and protection.

Recent CBDP accomplishments include advancing characterization and toxicity estimates, advancing information that supports improved detection, transitioning decontamination efforts up to advanced development, and transitioning enhanced medical countermeasures, he added.

The program also supports interagency efforts to develop nontraditional agent defense capabilities and has created mechanisms, networks, and processes in which data and information is shared across DoD and interagency.

### **Countering Biological Threats**

To counter biological threats, Hassell said, vaccinations are available to prevent disease caused by two of the leading biological warfare threats—anthrax and smallpox.

"DoD continues to make progress on more vaccine candidates for plague, botulinum toxins, Ebola and Marburg viruses, ricin, and equine encephalitis viruses," he added, "and nerve-agent pretreatments."

In 2012 the White House released a National Strategy for Biosurveillance, and today CBDP is developing enhanced and



Defense Threat Reduction Agency test personnel prepare to carefully offload the 30,000-pound massive ordnance penetrator, or MOP, for a static test at White Sands Missile Range, N.M.

DTRA photo

integrated biosurveillance systems, Hassell said, adding that they are composed of research, development, and acquisition efforts supporting improved environmental detection systems, rapid medical diagnosis, and integrated information systems.

Through fiscal year 2015, for example, the Joint U.S. Forces Korea Portal and Integrated Threat Recognition advanced technology demonstration, known as JUPITR, will provide specific detection and analysis capabilities to address the need for biosurveillance on the Korean Peninsula, Hassell said.

### **The Most Intractable Problem**

JUPITR “will enhance the ability of U.S. Forces Korea and the Republic of Korea to respond to biological threats,” he added.

For the force as a whole, Hassell said, his office has determined that the threat of undetected attacks is one of CDBP’s most intractable problems.

Detecting, identifying, and attributing attacks are significant technological challenges, he said, and detection capability to prevent contamination is elusive, particularly for biological threats.

“While an improved detect-to-treat capability is showing promise, the window for early detection and warning to prevent casualties requires continued dedicated efforts,” Hassell said.

“As a result,” he added, “we are pursuing vaccines and therapeutics for the most dangerous threats that we currently cannot detect in adequate time to warn the warfighter to take other protective measures.”