

Air Force Declares F-35A Lightning II 'Combat Ready'

AIR FORCE NEWS SERVICE (AUG. 3, 2016)

JOINT BASE LANGLEY-EUSTIS—The F-35A Lightning II fifth-generation fighter aircraft was declared “combat ready” yesterday by Air Force Gen. Hawk Carlisle, commander of Air Combat Command.

Defense Secretary Ash Carter offered his congratulations to the Air Force. Carlisle lauded the aircraft’s performance, noting that the aircraft had met all key criteria for reaching initial operational capability (IOC): airmen trained, manned, and equipped to conduct basic close air support, interdiction, and limited suppression/destruction of enemy air defenses in a contested environment with an operational squadron of 12-24 aircraft; the ability to deploy and conduct operational missions using program of record weapons and missions systems; and having all necessary logistics and operational elements in place.

“I am proud to announce this powerful new weapons system has achieved initial combat capability,” Carlisle said. “The F-35A will be the most dominant aircraft in our inventory because it can go where our legacy aircraft cannot and provide the capabilities our commanders need on the modern battlefield.”

Fifth-Generation Aircraft

The F-35A is the latest addition to ACC’s fleet of deployable and fifth-generation aircraft, said officials, adding that the aircraft provides air superiority, interdiction, suppression of enemy air defenses, and close-air support as well as great command and control functions through fused sensors, and it will provide pilots with unprecedented situational awareness of the battlespace that will be more extensive than any single-seat platform in existence.

“Bringing the F-35A to initial combat readiness is a testament to our phenomenal airmen and the outstanding support of the Joint Program Office and

our enterprise partners,” Air Force Secretary Deborah Lee James said. “This important milestone for our fighter force ensures the United States, along with our allies and international partners, remains prepared to deter, deny, and defeat the full spectrum of growing threats around the globe.”

Chief of Staff of the Air Force Gen. David L. Goldfein said the aircraft’s dynamic new capability will benefit the joint warfighter.

“The combat-ready F-35A is the latest fifth-generation fighter aircraft in the Air Force’s inventory and provides our nation air dominance in any environment. The F-35A brings an unprecedented combination of lethality, survivability, and adaptability to joint and combined operations, and is ready to deploy and strike well-defended targets anywhere on earth,” Goldfein said. “Today’s declaration of IOC is an important milestone on the road to achieving full warfighting capability for the F-35A.”

Successful June Deployment

The 34th Fighter Squadron of the 388th Fighter Wing, based at Hill Air Force Base, Utah, is the service’s first operational F-35A squadron, having met all the established criteria for initial operational capability including a successful June deployment to Mountain Home AFB, Idaho, and a series of



F-35A Lightning II aircraft receive fuel from a KC-10 Extender tanker aircraft from Travis Air Force Base, Calif., during a flight from England to the United States, July 13, 2016. The fighters were returning to Luke Air Force Base, Ariz., after participating in the world’s largest air show, the Royal International Air Tattoo. Officials announced Aug. 2, 2016, that the F-35A has achieved initial combat capability.

Air Force photo by Staff Sgt. Madelyn Brown

eight-aircraft sorties held in mid-July. Members of the 34th FS will fly and maintain the F-35A alongside Air Force Reservists from Hill's 419th Fighter Wing.

"Our airmen have worked tirelessly to make sure our aircraft are combat ready: meeting challenges head-on and completing all the required milestones," said Air Force Col. David Lyons, the 388th Fighter Wing's commander. "We're very proud that the Air Force has declared us combat ready, and we're prepared to take this aircraft wherever it's needed in support of our national defense."

Those sentiments were echoed by Air Force Col. David Smith, the 419th Fighter Wing's commander.

"It's an honor to fly and maintain the F-35 with our active-duty counterparts here at Hill," Smith said. "Our units were the first to fly combat-ready F-16s nearly 40 years ago, and we're very proud to have made history once again in bringing the Air Force's newest fighter jet to IOC."

Innovation, Reform Are Contagious, Vice Chairman Says

DOD NEWS, DEFENSE MEDIA ACTIVITY (AUG. 25, 2016)

Jim Garamone

WASHINGTON—Innovation and reform are contagious, and military leaders increasingly are seeking ideas and expertise from younger officers, noncommissioned officers, and civilian employees to keep the ball rolling in the Defense Department, Vice Chairman of the Joint Chiefs of Staff Air Force Gen. Paul J. Selva said today.

He said the ideas of reform and innovation are spreading in the military. Innovation takes many forms, Selva said. The general reached into history to highlight one example: the National Security Act of 1947 that created DoD, the intelligence community, and the National Security Council.

Institutional Reform

"It is an exceptional example of institutional reform—the process by which institutions realize they have a problem they want to solve and it is not a problem of a tactical or operational nature, but a strategic nature," the vice chairman said. "It is about the relationships inside the agency and reforms about making those agencies more useful to the decision makers who rely on those agencies."

Without the National Security Act, harmonizing the various agencies in the national security community would have been vastly different, Selva said.

Reform and innovation are necessary because of the challenges facing the United States, the general said, putting Russia and China at the head of the list of those challenges. "They are global challenges," he added. "There is very little in our relationship with Russia that doesn't move the global stage almost immediately, and the same is true of China."

The United States must have in place structures and processes to manage the tough decisions that will have to be made, he said.

Iran and North Korea are also challenges, Selva said, the most significant being the nuclear capabilities both countries covet. "Our agreement with Iran stanches that program for a number of years, [which] is a positive development," the general said. "But it is not the end. It is the beginning. It is the beginning of a relationship that might be built on compliance with that plan."

North Korea is a challenge because it is so opaque, he said. "We only know what we know about North Korea because of the bits and pieces that we can collect," he added. "And understanding the trajectory of North Korea is critical to understanding the trajectory of security in the Western Pacific."

Violent Extremism

The challenge of violent extremism also remains a wild card. The vice chairman said he will not put a name on the challenge, "because we have watched violent extremism morph over the past decades in ways we couldn't even dream of."

Inside all these challenges is room for continuing reform in the institutions of the government and department that will help leaders manage and understand the challenges and react quickly to the variables of those challenges, the general said, and innovation also plays a large role.

"Innovation is about tactical, operational, and strategic choices within organizations to adopt new ways of doing things," Selva said. "It can make the organization more effective or more efficient, or possibly both."

Innovation in an organization the size of the Defense Department—about 3 million people—is not easy or quick, he acknowledged. But the basics are the same, he said, no matter if the organization is a small startup or a global national defense institution. Innovation is "people who are willing to bring new ideas to the fore, people who are willing to take risks with those new ideas, and people who are willing to fail," the vice chairman said.

Too Hidebound?

Some people believe the U.S. military is too hidebound to be innovative, but they are wrong, Selva said. The idea “is as far from the truth as you can get,” he added.

“The military that brought you GPS doesn’t innovate?” he asked. “The military that brought you tactical innovation on the battlefield doesn’t innovate? The military that brought you the AirLand Battle [strategy] in the 1970s and 1980s, and has continued to refine that capacity almost to a science, doesn’t innovate?”

Innovation is accepted in the military, Selva said, but innovators have to convince leaders it is worth it. “We grow up assessing risk,” the general said. “It started my first day on active duty.”

Selva said he showed up at pilot training and the instructors told him that after 10 instruction hours, he would be soloing. “You don’t think there is a bit of risk assessment involved in climbing into a jet airplane with 10 hours of flight time to go fly by yourself without the comfort of an instructor to correct those minor errors that can quickly turn into a catastrophe?” he said.

Risk Assessments

The military hammers risk assessment into its personnel to look at everything they do, because risk can kill people or cause the mission to fail, Selva said, both being unacceptable outcomes. “It’s not that we are risk-averse, it is that we are eminently conscious of risk,” he said.

The military is constantly looking at where risk is coming from and how to counter it so imaginative competitors can’t challenge the United States and erode its advantage, increasing risk to the United States, its allies, and its partners. To counter this innovation becomes even more important, Selva said.

“If a young officer comes to me and says, ‘I have an idea to make our command and control more efficient and quick,’



Air Force Gen. Paul J. Selva, vice chairman of the Joint Chiefs of Staff, listens to a question at the Center for Strategic and International Studies in Washington, Aug. 25, 2016. Selva spoke on the future of joint capabilities and military innovation.

DoD photo by Army Sgt. James K. McCann

‘I’ll listen,’ the general said. “Then my question to him is, ‘Are you willing to be wrong?’ Because you have to be willing to test a hypotheses to see if it is right. If it is not, then you know to move on to another proposal. But you have to be willing to be wrong to start.”

Commercial industry uses innovation exactly that way, Selva said. “It’s fast, but it is iterative,” he said. “Failure is acceptable, but repeated failure, maybe not. It moves like a small brush fire, and it fertilizes everything in its path as it thins out the underbrush. People who are successful at it are astronomically successful at it.”

DoD’s problem is that it treats every bit of innovation like a forest fire, the general said. “We bring out the fire brigades and we try to put it out, because innovation is only good if you are right,” he said. “Asking hard questions is only all right if you know the answer. And none of that fosters innovation.” Selva has ordered the fire brigades back to the fire stations and is working with people around the department to foster innovation and to give them the freedom to fail and learn.

“And I am not the only person doing this,” he said. “If I was, it would be an innovation insurgency. This is now becoming systemic in the department, where senior leaders are

asking young officers and NCOs and civilians for their ideas and their expertise. We are triaging their ideas to find those that will make us more effective on future battlefields. And we are finding them."

Under Secretary of Defense Visits U.S. Navy's Cyber Thought Leaders

PROGRAM EXECUTIVE OFFICE COMMAND, CONTROL, COMMUNICATIONS, COMPUTERS AND INTELLIGENCE (AUG. 26, 2016)

Rita Boland

SAN DIEGO (NNS)—The Under Secretary of Defense for Acquisition, Technology and Logistics (AT&L) Frank Kendall visited the U.S. Navy's Space and Naval Warfare Systems Command (SPAWAR)'s Old Town Campus and SPAWAR Systems Center Pacific (SSC PAC)'s facilities Aug. 24, 2016.

During his trip, Kendall exchanged ideas with Navy cyber acquisition warriors during an All Hands meeting, an awards ceremony, roundtables, and laboratory tours. He had the opportunity to interact with disparate members of the SPAWAR enterprise, which includes headquarters, Program Executive Office Command, Control, Communications, Computers and Intelligence (PEO C4I), PEO Space Systems, SSC PAC and SSC Atlantic. The intent of the under secretary's visit was to meet personally with the SPAWAR acquisition workforce and command leadership to hear firsthand their challenges, successes, questions and concerns, as well as to provide an update on AT&L priorities and initiatives.

"With Better Buying Power and things like Should Cost and getting better deals, you start to see a significant improvement," said Kendall during an all-hands assembly at SPAWAR headquarters. "[Better Buying Power] is going on to this day, and we need to continue this."

During the all-hands, the under secretary also handed out several Spotlight Recognition Awards to highlight specific SPAWAR-enterprise accomplishments that contribute to

AT&L priorities and/or Better Buying Power (BBP) 3.0 initiatives. The recipients were:

Bill Farmer who directed efforts to establish C4I cyber baselines that will ensure ships receive the most complete and secure C4I systems. As a leader in SPAWAR's cybersecurity efforts, he made significant gains in delivering certified C4I systems and services that enable sustainable cyber-ready platforms while also reducing vulnerabilities.

Emily Nguyen for her leadership as the project manager of a team that releases six software applications each month for U.S. Marines. The team rapidly develops and deploys software solutions to meet technology gaps identified by Marine Expeditionary Forces. She also employs the agile software development process to incorporate user feedback quickly into the development of capabilities. This approach results in shorter delivery times, less re-work, and evolved solutions that better match emergent warfighter requirements.

Dai Nguyen for his successful development and implementation of a Virtual Training Environment (VTE) solution for Network Security Vulnerability Technicians. His innovative approach gives the Navy the ability to quickly refresh



Frank Kendall, Under Secretary of Defense for Acquisition, Technology and Logistics (AT&L), presents a spotlight award to Bill Farmer, deputy program manager for the Fleet Readiness Directorate, Space and Naval Warfare Systems Command (SPAWAR). Kendall presented three spotlight awards and then spoke with personnel from SPAWAR; SPAWAR Systems Center Pacific; the Program Executive Office for Command, Control, Communications, Computers and Intelligence (PEO C4I); and its partner program offices during an all-hands forum about Better Buying Power, a Department of Defense innovation and should cost initiative.

U.S. Navy photo by Krishna M. Jackson

technology and to deliver updated instruction to sailors underway or in fleet concentration areas. His VTE effort will result in approximately \$6 million in life-cycle savings and will improve the effectiveness of other C4I end-to-end training in VTEs.

“Training is important to sailors,” Dai Nguyen said. “By virtualizing training, we make it more efficient. We help warfighters spend more time on missions instead of in class, and we can invest money and time that used to be spent on training back into other resources for the Navy. I want to emphasize that this is a team effort. A dedicated group of people makes this successful.”

During the All Hands, Kendall spoke about BBP 3.0, the latest iteration of the Defense Department’s plan to be as efficient as possible when providing capability to the warfighter. The 3.0 version has special relevancy to the SPAWAR community, which is a leader in cyber for the Navy. Cybersecurity is a new emphasis area, and the overall focus of BBP 3.0 is the overriding concern that U.S. technological superiority is at risk. Recognizing that innovation increasingly emanates from the commercial sector and overseas, the guidance emphasizes the importance of the federal workforce in identifying and using these sources of innovation and technology.

Kendall is promoting interaction between the Armed Forces and industry to create a stronger cyber culture in U.S. military missions. Advancing cyber capability includes changing an acquisition process that is too lengthy to keep up with the speed at which cyber evolves. The strategic goals and activities of the SPAWAR enterprise align well with BBP 3.0, paving the way to enable delivery of modern information technology services; to own cyber technical leadership; to reduce the cost of operations; and to optimize the cyber workforce. The work at all levels boils down to a more simple idea: provide warfighters with the latest cyber capabilities so they can win on every battlefield every time.

SPAWAR Commander Rear Adm. David Lewis said, “SPAWAR delivers cyber warfighting capabilities from seabed to space. Better Buying Power 3.0 helps us continue our mission to support the fleet with secure and effective information systems to fight in the cyber domain.”

After his remarks, Kendall took questions from the workforce about efficiencies, processes, and the impact of fixed-cost contracts on limiting competition among cutting-edge industry partners. Kendall provided in-depth responses on how his office and the Defense Department are addressing these types of concerns and issues.

Kendall spent his afternoon touring SPAWAR System Center Pacific’s extensive laboratories such as the Battlespace Exploitation of Mixed Reality Lab, which is exploring the warfighting possibilities of virtual and augmented reality.

With his extensive technical background, Kendall meshed quickly with the engineers and scientists as they jumped from demonstrations on cyber situational awareness and unmanned vehicles to nanosats, and command and control systems. He completed his tour onboard the navy’s newest autonomous surface test vessel the Sea Hunter—the naval warship equivalent to a self-driving car.

For more news from Space and Naval Warfare Systems Command, visit <http://www.navy.mil/local/spawar/>.

DoD Studies ‘Terminator’ Weapons Conundrum, Selva Says

DOD NEWS, DEFENSE MEDIA ACTIVITY (AUG. 26, 2016)

Jim Garamone

WASHINGTON, Aug. 26, 2016—Maybe the idea behind the “Terminator” movie franchise isn’t so far-fetched.

In the “Terminator” films and TV shows, a worldwide computer defense network becomes self-aware and sees humans as the enemy and attacks.

Scientists around the world are currently working on artificial intelligence, autonomous vehicles, uses for big data, and other innovations and technologies that pose ethical questions.

DoD is examining those questions, said Air Force Gen. Paul J. Selva, the vice chairman of the Joint Chiefs of Staff. He spoke about some of these ideas yesterday with Kathleen Hicks, the senior vice president of the Center for Strategic and International Studies.

The idea of computers driving cars, landing airplanes, delivering packages, or exploring planets is already here. Singapore is testing driverless taxis. Google is looking to do the same in Pittsburgh shortly.

There are a number of autonomous vehicles on Mars.

The U.S. military has a fleet of remotely piloted vehicles that operate worldwide, and oceanographers have been using remotely piloted submersibles for years.

Autonomous Weapons Systems

But the idea of autonomous weapons systems poses some real ethical challenges, Selva said. DoD is working with ex-



Automated Patrol Vehicle

A mobile detection assessment response system patrols the perimeter of an airfield in Djibouti, July 9, 2016. It is an automated patrol vehicle able to navigate paths and detect threats in the vicinity.

Air Force photo by Staff Sgt. Eric Summers Jr.

perts on ethics—both from inside and outside the department—on the issues posed, he said. They are looking at the pitfalls of what happens when technology is brought into the execution of warfare.

“I am not bashful about what we do,” Selva said. “My job as a military leader is to witness unspeakable violence on an enemy. In the end, when you send me or any soldier, sailor, airman, or Marine from the United States ... out to defend the interests of our nation, our job is to defeat the enemy.”

How service members accomplish the mission is governed by laws and conventions, he said. “One of the places where we spend a great deal of time is determining whether or not the tools we are developing absolve humans of the decision to inflict violence on the enemy. That is a fairly bright line that we are not willing to cross.”

A true autonomous weapon system would be programmed to perform a mission and the decision to use deadly force would be left up to the on-board computer within the program parameters. That is unacceptable to the United States military, Selva said.

Benchmarks

“We have insisted that as we look at innovations over the next couple of decades that one of the benchmarks in that process is that we not build a system that absolves our human leaders of the decision to execute a military operation, and that we not create weapons that are wholly and utterly autonomous of human interaction,” he said.

But the U.S. decision does not mean an enemy would follow suit.

In the world of autonomy, a completely robotic system that can make a decision on causing harm is already possible, he said. “It’s not terribly refined, it’s not terribly good, but it is here,” the general said. “As we develop systems that include things like artificial intelligence and autonomy, we have to be very careful that we don’t design them in a way where those systems actually absolve humans of that decision.”

The discussion needs to occur, the general said, and the United States must be prepared for nations or non-state actors to violate any convention that the world draws up with respect to autonomous weapons.

“Until we understand what we want the limits to be,” Selva said, “we don’t have a baseline to use to determine if someone is moving down the path of violating a convention that could create something like a Terminator that adds an incredible amount of complexity and with no conscience to what happens on the battlefield.”

New Office to Keep Army Ahead of Technological Change

ARMY NEWS SERVICE (SEPT. 1, 2016)

C. Todd Lopez

WASHINGTON—Modernization in the Russian military has resulted in exceptional cyber, electronic warfare, and anti-access/area-denial capabilities that have raised concerns in the U.S. Army, particularly in the wake of Russia’s 2014 invasion of Crimea and subsequent involvement in Syria.

“What we saw is that even though we are the best trained and best equipped Army in the world, our adversaries and technology don’t wait on our timetable,” said Maj. Gen. Walter E. Piatt, director for operations of the newly created Army Rapid Capabilities Office.

"Things keep moving. And we saw that very clearly with Russia's efforts in Crimea and Ukraine."

In an effort to ensure a rapid boost to the U.S. Army's own similar capabilities and prevent capability gaps from developing in the future, Secretary of the Army Eric K. Fanning has directed the creation of the Army Rapid Capabilities Office. That office stood up on Aug. 11.

"Its purpose is to really look at urgent, immediate, or emerging threats that are defined by the combatant commands that the secretary and the chief of staff believe are critical in nature," said Doug Wiltsie, who serves as director of the Rapid Capabilities Office.

The goal of the office, according to Piatt, is to ensure that the capabilities of U.S. forces supersede those of current and potential adversaries.

"We need to ... make sure that they are offset from us, not the other way around," he said. "Operations in Ukraine showed some really good examples that our adversaries developed while we were fighting a long war, mainly a counter-insurgency war in Afghanistan and Iraq."

The Army already employs multiple avenues to develop and procure gear and equipment. The traditional acquisition process, for instance, is meant for long-term development and procurement of systems like the Armored Multi-Purpose Vehicle and the Future Vertical Lift.

"[Such systems are] designed for all phases of war in all types of terrain. So they require a much longer development and testing process," Wiltsie said.

Development through the traditional acquisition cycle typically takes longer than five years, he said.

On the short side of acquisition is the Rapid Equipping Force, which allows soldiers or units in immediate need to file an urgent operational needs statement; the REF will respond, typically in fewer than six months, with a materiel solution that in most cases is developed on-the-fly by the Army, sometimes even in theater.

Output from the new Rapid Capabilities office is meant to hit a "sweet spot" in development timelines of between one and five years, Wiltsie said. It is meant neither for immediate solutions, nor long-term development of projects like aircraft or vehicles. Its purpose is close the capability gaps with rapidly evolving technologies that require a dedicated fast-track to approval.

"The Rapid Capabilities Office is focused on what it says: capabilities," Fanning said. "We're not embarking on creating new systems or new platforms. We're not focused on building a new helicopter, for instance.

"We're going to use this office because some technology on a helicopter isn't giving us the edge over an adversary that it should. But it might mean that some capabilities being developed for a future helicopter need to be developed faster."

A Team of Experts

Right now, the staff of the Rapid Capabilities Office is a bit of a skeleton crew, with Wiltsie and Piatt at the top of the pyramid.

It will require more than just two men and a staff to identify the most critical capability gaps, develop solutions, and then deliver them to the field in less than five years. And it will require a process different than the traditional acquisition process.

What it will take, according to Wiltsie, is active interest from senior leadership in the Army. To that end, a board of directors led by the Secretary of the Army himself will serve as the top decision-makers. But other top leaders and organizations will also influence the Rapid Capabilities Office, Wiltsie said.

"In order to provide a holistic solution and a holistic assessment of what capabilities we are trying to bring to bear, you have to have Army Training and Doctrine Command's involvement as the subject matter experts in doctrine, organization, training, and leadership," Wiltsie said.

"And [also] Army Forces Command, clearly, because they are the generating force command. Their operational units will be receiving the equipment, so we need FORSCOM performing the operational assessment of the equipment."

With that level of Army leadership directly involved in the identification of capabilities and procurement objectives, solutions are apt to move along much more rapidly than they would through traditional acquisition, Wiltsie said.

"You reduce the number of levels of oversight," Wiltsie said. "But it's the most immediate, urgent, or emerging threats that they believe the Army will encounter. So you shorten the level of oversight and you get decisions fast."

The board of directors will be responsible for identifying the procurement objectives to be developed. As of this writing, the board hasn't met, so it has yet to pass on its first development objectives. The general direction, Wiltsie said,

will involve cyber, electronic warfare, and positioning, navigation, and timing capabilities.

Wiltsie said the board will take counsel on the Army's needs directly from combatant commanders, and those requirements will follow the operational needs statement process.

Faster Process

Once the Rapid Capabilities Office board of directors decides on an objective, Wiltsie said, his office will perform an analysis and return to the board with their results and request approval to move forward for prototyping of a solution.

Upon receiving approval, the Rapid Capabilities Office will develop and test a prototype and then perform an operational assessment of the prototype's effectiveness, as well as the training and maintenance required to implement it.

Wiltsie said the Rapid Capabilities Office will make use of every opportunity to perform operational assessments, including the Network Integration Evaluations and Army Warfighting Assessments held at Fort Bliss, Texas and White Sands Missile Range in New Mexico.

Involvement of Army Forces Command at the level of the board of directors will ensure that Army units will be available to run the operational assessments. After analysis and prototyping, Wiltsie said, the Rapid Capabilities Office will either enter limited production, further refinement, or shelve the idea.

Piatt said the Rapid Capabilities Office can count on senior leader buy-in, because the leaders will be involved from the start in identifying capability gaps and in the decision-making process to move forward. That means solutions should reach the Army much faster than they would through traditional procurement.

But the process should also ensure more robust and future-proof solutions than those typically provided through the REF



Army Rangers, assigned to 2nd Battalion, 75th Ranger Regiment, prepare for extraction from their objective during Task Force Training on Fort Hunter Liggett, Calif., Jan. 30, 2014. Rangers constantly train to maintain their tactical proficiency.

Photo by Army Spc. Steven Hitchcock

process. "We're filling a gap that can meet a tactical need, in the near term, but also helps close a strategic gap, and move existing technology together so the soldier doesn't have that demand," Piatt said. "The Army is always evolving."

Piatt cited Army chief of Staff Gen. Mark Milley's remarks on always being prepared "for the last war," in part as an impetus for creation of the Rapid Capabilities Office.

"If we have a capability that the Rapid Capabilities Office can give the Army to [meet] that near-term need and emerging far-term gaps, we are going to close that gap," Piatt said.

"I think the best thing we will be able to do for soldiers is not put them at an un-readiness in the future, but make them ready for today and also prepared for the future."

Fanning said the Rapid Capabilities Office will help the Army do what successful armies in the past have always done: anticipate the future. The Rapid Capabilities Office, he said, will ensure soldiers always have the capabilities they need to achieve a decisive win.

"Our Army, as the principal land force of a global power, does not have the luxury of preparing to fight only one type

of enemy at one time, in one place. We must be prepared across the full spectrum of conflict," Fanning said. "The Rapid Capabilities Office will enhance the Army's ability to confront emerging threats and improve our acquisitions process; it will improve our ability to provide our soldiers what they need when they need it, and it will allow our Army to be more nimble in our efforts to stay ahead of change and innovation."

Pentagon's Top Acquisition Official Talks Innovation, Sustainment with Defense Industry

DEFENSE LOGISTICS AGENCY NEWS (SEPT. 2, 2016)

Beth Reece

COLUMBUS, Ohio—The United States' technological superiority is being challenged, and the Department of Defense must start implementing new, innovative ideas to beat the competition, the Pentagon's top acquisition official told military and industry officials Aug. 31 at the Defense Logistics Agency Land and Maritime Supplier Conference and Expo in Columbus, Ohio.

"Our adversaries and potential adversaries have had a very long time to study how the United States fights and what we use, what we rely upon for critical assets and then how to attack those assets," said Frank Kendall, under secretary of defense for acquisition, technology and logistics.

Innovation is a key tenet of Better Buying Power 3.0, the department's acquisition efficiency initiative. The problem isn't a lack of innovative ideas within DoD, Kendall added, but the lack of resources to implement them and make them standard practice.

"We're still trying to dig ourselves out of the readiness hole we put ourselves into in 2013 with sequestration," he said. "We've been living in an area of flat budgets for some time, and the threat of sequestration is back."

Recapitalizing America's nuclear enterprise will also put a significant strain on the military's financial accounts. Nuclear components such as intercontinental ballistic missiles are aging at a predictable pace and are in urgent need of replacement or refurbishing, Kendall said.

House and Senate provisions for the 2017 National Defense Authorization Act could also threaten defense budgets.

"The House basically wants to fund half the war and use the rest of the money to buy things. We're all for buying things, but not without funding our people in combat and those who are supporting operations," he said, adding that Senate provisions include a major reorganization of the Office of the

Secretary of Defense and 25 percent reductions in the Senior Executive Service corps and general officer ranks.

All these challenges will require the department to continue using existing platforms, and industry will have to play a big role in equipment readiness, Kendall added. He asked industry representatives to continue reducing production times for repair parts. Several systems are currently down for maintenance or depot-level repair, and in some cases at least half the fleet needs critical parts.

"Time is money, and when we take an asset offline, it reduces our capability and combat power. That's really unacceptable," he said.

Much of DoD's research and development budget goes toward finding solutions that enhance existing equipment. The goal is to ensure technology is efficient over product life cycles, so modular designs and open architectures will become key elements in product development.

Kendall also highlighted several BBP 3.0 principles that will help acquisition professionals and industry improve life-cycle sustainment. While controlling costs is fundamental and the responsibility of everyone in the government, focus should also be on using the most effective contracting vehicle available. Contracting is not a one-size-fits all, he said.

"This is an area where we can be more innovative and creative so that our business deals are a win-win. The best business deals in my perspective are those where industry gives us more of what we want for less money, and industry makes more money in the process," he continued.

The use of performance-based logistics, which makes suppliers responsible for equipment readiness, is now more common but must increase. PBL contracts are harder to implement and harder to outline, Kendall said, but typically lead to better results.

BBP is not and never has been a war on profit, he added. "We've been in a war against cost, and we will pay more profit to get lower cost. Profit is generally a small portion of what we pay for things."

Kendall also reported that cost growth among the department's riskiest contracts is at a 35-year low.

DoD has pulled through some of the toughest budget constraints in history due to the hard work and dedication of acquisition professionals, such as those at DLA and its partners in industry, Kendall added.



Global, Vibrant, Competitive Tech Community

Carter said that culture has changed from when he started out in physics in the 1970s and 1980s. "It was a different world," he said. "The bridges between the government and the tech community were bigger and stronger." Back then, the tech community was largely based in the United States and depended on the government for funding, he pointed out.

"Today, it's global, it's vibrant, [and] much of it takes place independent of the government," the secretary said. "That's good, but it means that I have an extra responsibility to try to build bridges to it and keep bridges to it and keep that connection strong."

Carter said he knows people in the tech world want to work on meaningful projects and do something of consequence—and the government has those types of projects.

Under Secretary of Defense for Acquisition, Technology and Logistics Frank Kendall describes how the tenets of Better Buying Power 3.0 can help the Department of Defense get the most out of existing resources.

Photo by Beth Reece

"The lives you save and the success you give the United States in providing peacekeeping around the world is really critical, and it is an accomplishment you can all be very proud of," he said.

The under secretary also presented coins of excellence to Steve Rodocker, deputy director of DLA Land and Maritime's Strategic Acquisition Programs Directorate, and Milton Lewis, DLA Land and Maritime acquisition executive.

Carter Visits Silicon Valley to 'Build Bridges' With Tech Community

DOD NEWS, DEFENSE MEDIA ACTIVITY (SEPT. 13, 2016)

Lisa Ferdinando

WASHINGTON—The Defense Department needs to be flexible and more "user-friendly" to attract the very best in the highly competitive tech community, Defense Secretary Ash Carter said today in San Francisco.

"In today's world ... you have to be open in order to be the best. Everybody knows that, and we need to be open, too," Carter told the "TechCrunch Disrupt 2016" innovation and technology conference.

One of the things that has made the United States the "best for a long time" is its great innovative culture, he said.

He applauded top technologists who are willing to spend some of their time "working on our collective betterment and our collective protection."

Willing to Meet Halfway

Carter said he was at the TechCrunch event to spur viewers of the conference to connect with the government. "We're open-minded, open-eared," he said. "We need the help, we know that, and we're willing to meet you halfway."

He highlighted how technologists can work with the Defense Digital Service for short periods of time or on specific projects. In addition, the Defense Department has an office in Palo Alto as well as a new post in Boston to connect with the tech community, he said, noting that the efforts are all part of building a bridge and "meeting people halfway."

"In today's world, it's competitive," Carter added, "and you only win when you keep striving and you remain open."

Securing Government Networks

The government spends an enormous amount of time and money to protect its networks, Carter said.

"We are very dependent upon networks that are secure," he said. "That's one of the areas where we welcome people to come and help us."

After his TechCrunch remarks, Carter met with top technologists in the Bay Area about how innovators can help DoD's mission, Pentagon Press Secretary Peter Cook said.

Secretary Carter Announces DIUx Presence in Austin, Texas

DEPARTMENT OF DEFENSE PRESS OPERATIONS (SEPT. 14, 2016)

Secretary of Defense Ash Carter announced today that the Department of Defense will establish a new Defense Innovation Unit Experimental, or DIUx, presence in Austin, Texas. Like the existing DIUx offices in Silicon Valley and Boston, the team in Austin will link the department with America's leading innovators, so they can help address our national security challenges and ensure America's warfighters remain on the cutting edge of technology. Secretary Carter was joined at the event by state and local officials, as well as technology leaders from Austin and the surrounding area.

"I created DIUx last year because one of my core goals as secretary of defense has been to build, and in some cases rebuild, the bridges between our national security endeavor at the Pentagon and America's wonderfully innovative and open technology community," said Secretary Carter. "Austin's commitment to innovation, access to talent and academia, as well as the department's longstanding ties to Texas make this an ideal next location for DIUx."

Initially, the new DIUx reserve presence will occupy space within the well-known Austin technology incubator Capital Factory. It will be led by Christy Abizaid, who previously served as deputy assistant secretary of defense for Afghanistan, Pakistan and Central Asia, and on the National Security Council staff. The rest of the staff will primarily be filled by local reservists and National Guard members already working within Austin's tech community. Abizaid will report to DIUx Managing Partner Raj Shah.

"This Austin presence will introduce us to even more innovators looking to help America's warfighters," said Abizaid. "The entrepreneurs in this area, including many veterans, are working on cutting-edge technology that could benefit our troops. We want to make it easier for them to do business with the DoD."

DIUx is tackling some of our nation's toughest defense challenges and the team is seeking solutions in a variety of technological areas—from autonomy, artificial intelligence, and machine learning to cybersecurity and analytics. Since the end of June, DIUx has made significant progress in finding commercial solutions to some of these problems through its new contracting mechanism, the Commercial Solutions Opening or CSO.

To date, DIUx has signed five agreements for \$3.5 million, our first within just 31 days from initial company contact to award. Another 22 projects are in the pipeline, totaling an additional \$65 million of forthcoming investment. Because DIUx operates on a co-investment model in which it pools funds with the military end-users it works with, DIUx's \$17 million of research and development expenditure is augmented by \$51 million of additional funding by others within the department. For each \$1 DIUx invests in innovative technology, other parts of the department are investing nearly \$3.

Further information about DIUx and its work with the tech community may be found on their website at <https://www.diux.mil>.

Carter, Mentor Discuss Innovation

DOD NEWS, DEFENSE MEDIA ACTIVITY (SEPT. 19, 2016)

Jim Garamone

WASHINGTON—Defense Secretary Ash Carter and his mentor, former Defense Secretary William J. Perry, discussed the importance of innovation in defense during a talk at the Hoover Institution here today.

Carter said innovation will ensure the American military remains the best in the world.

Perry was instrumental in moving the Defense Department from vacuum tubes to solid-state electronics. He also ensured the transition at the end of the Cold War was peaceful. The goal ... is to make sure we remain the finest fighting force in the world," Carter said. "We're that today ... because we have wonderful people and because of technology."

In technical terms, the U.S. military is working to keep up with the times, he said. Cyber technology, automated systems, and biological research will be necessary moving forward, the defense secretary said, noting that biological research "will be the revolution that comes after the information revolution ... and we need to be there for that."

Stylistic Change

Carter also must deal with what he calls a "stylistic change" from the time when DoD was the font of all funding and ideas for defense. That is not the case anymore, he said.

"The key is the private technology sector," the defense secretary said. "It has always been our relationship with private industry that has been our channel through which we got the best technology," Carter said.



Former Defense Secretary William J. Perry, left, and then-Deputy Defense Secretary Ash Carter, unveil the William J. Perry Center for Hemispheric Defense Studies April 2, 2013, at Fort Lesley J. McNair, Washington. Carter and Perry discussed defense innovation at the Hoover Institution, Sept. 19, 2016.

DoD photo by Rachel Larue

“We have to have a new relationship with the dynamic, innovative culture of the United States that is different than when I started my career,” he added.

To connect to the innovative U.S. tech companies, the defense secretary established Defense Innovation Unit-Experimental outposts in California, Massachusetts, and Texas, and he said he anticipates setting up more. These units are reaching out to young people who want to make a difference, Carter said. “We have to adapt, if we are going to draw them into our mission,” he said.

War Spurs Agility

All this is necessary because the world of technology is moving too fast for the department’s existing processes, the defense secretary said. There will be systems, such as ships, that will take 10 years to develop, Carter said.

The wars since 9/11 have spurred the adoption of more agile systems, he said. “You can’t stand to not be there on time with something for somebody who is not getting ready for some hypothetical fight, they are actually fighting today,” the defense secretary said.

DOD’s Technological Superiority Depends on Out-Innovating Adversaries

DEFENSE MEDIA ACTIVITY (SEPT. 21, 2016)

Cheryl Pellerin

WASHINGTON—Future Defense Department technological superiority hinges on the department’s ability to out-innovate its adversaries, rethink how it sources technology, and perhaps rethink its models for product delivery, the assistant secretary of defense for research and engineering said Thursday, Sept 15.

Stephen P. Welby addressed an audience at the Center for Strategic and International Studies, discussing research and development across the defense enterprise.

Such superiority also will require a DoD science and technology, or S&T, enterprise that is tuned to support sustained research in fundamental technologies and quickly leverage emerging technical opportunities to address warfighter needs, he added.

“We need to be open and agile, to leverage all potential sources of technical advantage, from our traditional industrial base, from nontraditional suppliers, and from academia to help to create competitive advantage,” Welby said.

DoD laboratories must be prepared to perform a key role in translating technical capabilities into solutions and concepts, the assistant secretary said, that will help meet warfighter needs and grow their capability to overmatch any threat.

Technology Convergence

Welby believes the department's core technical engine is the DoD S&T community—the uniformed and civilian men and women who every day explore new scientific frontiers, advance military capabilities and critical military technologies, and envision new military concepts.

The major technologies the department will rely on in the future will remain defense-unique, he added, and some of DoD's most cutting-edge capabilities will reflect a convergence of military and commercial technologies.

"No one in a garage in Palo Alto is developing the next armor system, the next defensive capability for a carrier, the next acoustic-quieting technology for our submarines," he said, "... and I don't think we spend enough time focused on that core engine of technology and innovation that's made up of the service and defense laboratories and agencies."

The three principal service labs are the Army Research Lab in Adelphi, Maryland, the Naval Research Lab in Washington, D.C., and the Air Force Research Lab in Dayton, Ohio. The department also operates 63 specialized research and engineering centers nationwide, Walker said.

Some of these are the Air Force Rocket Propulsion Lab at Edwards Air Force Base in California, the Naval Air Weapons Station at China Lake in California, the military medical research centers in Texas and Maryland, the Army Aviation and Missile Command in Alabama, and the Army Natick Soldier Systems Center in Massachusetts.

The Washington, D.C.-based Defense Advanced Research Projects Agency (DARPA) also plays a unique role in the defense enterprise, he said, and for the last 58 years has remained at the forefront of disruptive revolution after revolution in military and civilian technology.

"DARPA is focused on high-risk, high-pay-off technologies with a project focus," Welby said. "They have achieved success over time by attracting the best and brightest who want to work on some of the most compelling and fascinating technical problems our country has to offer, and by operating with a very lean and agile operating model."

Chief Technology Officer

Welby said the president's 2017 budget request for DoD S&T was \$12.5 billion, divided among basic research, applied research, and the advanced technology development that turn applied research into the next stage of maturation.

One of his duties as DoD chief technology officer, he explained, is to ensure that the S&T portfolio stays focused on areas that provide the best return on the department's investment.

"To do this efficiently, we've identified 17 of what we call Reliance 21 Communities of Interest ... the technical focus areas that the department organizes its S&T base around," the assistant secretary said.

Some of these include autonomy, cyber, sensors, electronic warfare, ground and sea platforms, space, human systems, air platforms, biomedical, counter weapons of mass destruction, counter improvised explosive devices, and others, according to the Research and Engineering website.

A technical expert from across the department leads each community, and the leadership roles rotate among the Services. Leaders and their staffs come together to do reviews, Welby said, and then they go back to their day jobs.

"We use these communities to perform technical assessments, to develop our classified and unclassified roadmaps for where we are taking our technology investments, and to make recommendations about work that should be accelerated and work that should be wound down," he added.

"Today about 75 percent of the total DoD S&T budget is covered by the 17 focus areas, and at the applied research and advanced technology research piece—the more applied portions of our science and technology portfolios—about 90 percent of that investment is covered by these 17 communities," Welby said.

Prototyping, Experimentation

One strategy Welby's office is pursuing to accelerate the maturation of capabilities in a constrained budget environment is an increased focus on prototyping and experimentation, he told the audience.

"Our prototyping efforts are a hedge against an uncertain future," Welby said. "They allow us to avoid early commitment to procurement in fielding, serial production, demand, and they provide options to leadership to help shape future system portfolios."

A good example of prototyping, he added, is *Sea Hunter*—a full-scale prototype of a new class of unmanned oceangoing vessel.

DARPA developed and built the technology-demonstration vessel through its anti-submarine warfare continuous-trail unmanned vessel program. The robot warship can travel thousands of kilometers over open seas for months at a time without crewmembers, but always with remote human supervision, according to a DARPA news release about the ship.

Today, Welby said, the ship has left Portland and is now with the fleet in San Diego. For the next two years, the Navy is going to work with the vessel to help them understand how unmanned capabilities will intermix with manned capabilities and future systems.

“So many of these prototype programs are about taking that last step,” he added. “They go from the capabilities we work on in the lab, in simulation, in wargaming, and actually put it into the field so folks can rap knuckles on the devices and understand what they can really do for them.”

Carter: DoD Will Rebuild, Sustain its Nuclear Deterrence Enterprise

DOD NEWS, DEFENSE MEDIA ACTIVITY (SEPT. 26, 2016)

Jim Garamone

WASHINGTON—Defense Secretary Ash Carter kicked off a visit to DoD’s nuclear deterrence enterprise, telling airmen at Minot Air Force Base, North Dakota, that DoD will invest, innovate, and sustain to rebuild that enterprise’s capabilities that remain the bedrock of U.S. defense strategy.

The secretary spoke at a hangar on the flightline of the base. He thanked the airmen at the base, and by extension, thanked the thousands of other technicians who man, maintain, guard, and operate the bombers, ICBMs, ballistic



The Sodium Guidestar at the Air Force Research Laboratory Directed Energy Directorate's Starfire Optical Range. Researchers with AFRL use the Guidestar laser for real-time, high-fidelity tracking and imaging of satellites too faint for conventional adaptive optical imaging systems. The range's world-class adaptive optics telescope is the second largest telescope in the Defense Department.

U.S. Air Force photo

missile submarines, and the command-and-control systems around the world.

“As you know, everyone has their role to play,” he said, “and while each physical piece is important, it’s really the people who make the whole greater than the sum of the parts.”

Bedrock of U.S. Security

The secretary emphasized throughout his talk with the airmen that America’s nuclear deterrence is the bedrock of U.S. security and the highest priority mission in the Defense Department.

“Because while it is a remarkable achievement that in the more than seven decades since 1945, nuclear weapons have not again been used in war, that’s not something we can ever take for granted,” he said. “And that’s why today, I want to talk about how we’re innovating and investing to sustain that bedrock.”

Carter has a long history with the nuclear mission, working in the 1980s on basing for the MX missile system. He speaks

from experience when he says the deterrence mission has both remained the same and changed.

“At a strategic level, of course, you deter large-scale nuclear attack against the United States and our allies,” he said. “You help convince potential adversaries that they can’t escalate their way out of failed conventional aggression. You assure allies that our extended deterrence guarantees are credible—enabling many of them to forego developing nuclear weapons themselves, despite the tough strategic environment they find themselves in and the technological ease with which they could develop such weapons. And, if deterrence fails, you provide the president with options to achieve U.S. and allied objectives—a responsibility that I know President Obama takes with the utmost seriousness, as you do—all to reduce the risk of nuclear weapons being used in the first place.”

The nuclear deterrent also provides an umbrella under which service members accomplish conventional missions around the world, the secretary said.

Changed Nuclear Landscape

But the nuclear landscape has changed and it will continue to pose challenges, Carter said. “One way the nuclear landscape has changed: we didn’t build new types of nuclear weapons or delivery systems for the last 25 years, but others did, at the same time that our allies in Asia, the Middle East, and NATO did not,” the secretary said—“so we must continue to sustain our deterrence.”

Russia has modernized its nuclear arsenal, and there is some doubt about Russian leaders’ strategies for the weapons.

“Meanwhile, North Korea’s nuclear and missile provocations underscore that a diverse and dynamic spectrum of nuclear threats still exists,” Carter said. “So our deterrence must be credible, and extended to our allies in the region.”

North Korea is building nuclear warheads and the means to deliver them, the secretary said. The North Korean threat spurs spending on missile defense in the United States and the deployment of systems to South Korea, he added.

“We back all of that up with the commitment that any attack on America or our allies will be not only defeated, but that any use of nuclear weapons will be met with an overwhelming and effective response,” Carter said.

India and China are behaving responsibly with their nuclear enterprises, the secretary said.

“In Iran, their nuclear aspirations have been constrained and transparency over their activities increased by last year’s nuclear accord, which, as long as it continues to be implemented, will verifiably prevent Iran from acquiring a nuclear weapon,” Carter said. “The last example I’ll cite is Pakistan, where nuclear weapons are entangled in a history of tension, and while they are not a threat to the United States directly, we work with Pakistan to ensure stability.”

Nature of Deterrence Remains the Same

Despite the changes since the end of the Cold War, the nature of deterrence has not changed, the secretary said. “Even in 2016, deterrence still depends on perception—what potential adversaries see, and therefore believe—about our will and ability to act,” he said. “This means that as their perceptions shift, so must our strategy and actions.”

A large-scale nuclear attack is not likely, the secretary said. The most likely scenario is “the unwise resort to smaller but still unprecedentedly terrible attacks, for example by Russia or North Korea, to try to coerce a conventionally superior opponent to back off or abandon an ally during a crisis,” Carter said. “We cannot allow that to happen, which is why we’re working with our allies in both regions to innovate and operate in new ways that sustain deterrence and continue to preserve strategic stability.”

NATO is reexamining the nuclear strategy to integrate conventional and nuclear deterrence to deter Russia, he said.

Meanwhile, across the Pacific, the United States engages in formal deterrence dialogues with its allies Japan and South Korea, Carter said, “to ensure we’re poised to address nuclear deterrence challenges in Asia.”

Carter said the U.S. is taking steps to ensure that its nuclear triad—bombers, ICBMs, and ballistic missile submarines—do not become obsolete. “We’re now beginning the process of correcting decades of under-investment in nuclear deterrence,” the secretary said.

Nuclear Underfunding

DoD has underfunded its nuclear deterrence enterprise since the end of the Cold War, Carter said. “Over the last 25 years since then, we only made modest investments in basic sustainment and operations—about \$15 billion a year,” he said. “And it turned out that wasn’t enough.”

The fiscal year 2017 budget request invests a total of \$19 billion in the nuclear enterprise, Carter said. Over the next five years, he said, plans call for the department to spend \$108 billion to sustain and recapitalize the nuclear force and



Defense Secretary Ash Carter speaks to troops at Minot Air Force Base, N.D., Sept. 26, 2016. Carter is traveling to North Dakota and New Mexico to highlight the nation's nuclear enterprise, an area of critical importance to the long-term security of the United States.

DoD photo by Air Force Tech. Sgt. Brigitte N. Brantley

associated strategic command, control, communications, and intelligence systems.

The budget also looks to modernization, the secretary said. Plans call for replacing old ICBMs with new ones that will be less expensive to maintain, keeping strategic bombers effective in the face of more advanced air defense systems, and building replacements for the Ohio-class ballistic missile submarines, the secretary said.

"If we don't replace these systems, quite simply they will age even more, and become unsafe, unreliable, and ineffective," Carter said. "The fact is, most of our nuclear weapon delivery systems have already been extended decades beyond their original expected service lives. So it's not a choice between replacing these platforms or keeping them. It's really a choice between replacing them or losing them. That would mean losing confidence in our ability to deter, which we can't afford in today's volatile security environment."

While these plans are expensive, they are only a small percentage of total defense spending, the secretary said.

"In the end, though, this is about maintaining the bedrock of our security," Carter said. "And after too many years of not investing enough, it's an investment that we as a nation have to make, because it's critical to sustaining nuclear deterrence in the 21st century."

Army Ranking 780 Programs to Make 'Tough Choices' About Resources

ARMY NEWS SERVICE (SEPT. 27, 2016)

C. Todd Lopez

WASHINGTON—This year, as part of a strategic portfolio analysis and review, or SPAR, the Army will "rank order" all 780 or so of its equipment programs—from helicopters to boots to rifles—in terms of their impact on warfighting.

The results of that analysis will be made available to Army leaders to help guide them in making decisions on how to allocate dwindling Army modernization funds better.

In the fiscal year 2017 budget request presented to Congress, about \$125 billion was allocated to the Army. Of that, about 18 percent, or \$23 billion, was earmarked for modernization, including research, development, testing and evalua-

tion, as well as procurement of new equipment. That's about a 33 percent drop in modernization funding from 2011, said Lt. Gen. John M. Murray, deputy chief of staff, Army G-8.

That drop in funding comes because the Army doesn't expect to get an increase in its base budget, and it is prioritizing readiness and force structure over modernization. "The priority is retaining force structure and readiness—nobody tells us to do that," Murray said. "That is a deliberate choice by the senior leaders of the Army. They understand the risk we have taken in modernization. And they understand it's a compounding risk."

Still, Murray said, the Army must plan now to provide the Army of the future with the tools it will need to fight, and the Army must take action now to make that happen, despite an understanding that more money is probably not going to materialize.

"It would be irresponsible of the Army, of me in particular, to sit back here and say there's nothing we can do until we get more money," he said.

The idea of the SPAR, which is an idea that originated inside the G-8, is to take a look at all existing Army programs, as well as some concepts or ideas the Army might like to have, and prioritize them in a way that will allow Army senior leaders to make "some very tough choices" about what should be kept and what should be let go.

Working with Army Training and Doctrine Command, Army Forces Command, the Office of the Assistant Secretary of the Army for Acquisition, Logistics and Technology, and others, the G-8 will evaluate each of the Army's 780 or so equipment programs to determine their relative worth to the Army.

"[With modeling and simulations] we'll try to measure their contribution to what the chief has talked about—a decisive action, high-end warfight," Murray said. "[For instance] what does an M1 tank contribute to a high-end warfight?"

In this case of the M1 tank, Murray said they would run a simulation

with the tank and measure the outcome of that scenario. They would then run the same simulation without the tank.

"When the capability is in, you are going to come to a certain outcome," Murray said. "If the capability is out, that end state should be different. If it's not, then you have to question the value that capability adds to that warfight."

Murray acknowledges that, when it comes to the fate of Army programs, "everything we're doing is important to somebody." Nevertheless, all equipment programs, regardless of their portfolio, will be evaluated as falling into one of four "buckets" that will determine recommendations for Army leaders on how limited modernization resources might be applied to them moving forward:

- I: Accelerate or find a way to bring into the portfolio.
- II: Sustain at current level of resources.
- III: Reallocate resources to invest elsewhere.
- IV: Divest most or all resources.

The SPAR process will be completed and the outcome of that process will be presented to the secretary of the Army and the chief of staff of the Army sometime before April of 2017, for use in the development of the 2019-2023 program objective memorandum.



The Army's AH-64 Apache program is one of nearly 800 programs in the Army that will be evaluated for their contribution to warfighting effectiveness through a recently announced Strategic Portfolio Analysis and Review, or SPAR.

Photo by Air Force Tech. Sgt. Matt Hecht

Murray said the SPAR will not be the final decision on the future of Army programs, but is instead meant to provide well-researched material upon which Army leaders can make those decisions.

“One of the intended outputs is to tee up some hard decisions for the senior leadership,” Murray said. “And whether those decisions get made or not, that’s not my purview, but is well within their purview.”

Another aspect of SPAR, Murray said, is that it will provide him with some support for the answers he often provides whenever he is asked what he believes the Army could do with additional funding.

“I’ve been asked 50 times, ‘if you had more money what would you do,’” he said. “And when you give an answer, they say, ‘show me the analysis.’ Well, this is the analysis. If we need to modernize, and we need to get ready for the next fight that is coming, then we need to start laying a mark on the table.”

In addition to evaluating existing Army programs, SPAR will be used to evaluate concepts that the Army doesn’t currently have as programs of record, but might want to become involved in. One such example is directed energy weapons.

“We would make some assumptions of what it would perform like, what kind of vehicle it would be mounted on, and play it the same way in the model, and see if it makes a significant difference in the outcome of the scenario,” Murray said.

Evaluation of Army programs with SPAR is already underway. Should the analysis turn out to be valuable, he expects the Army to repeat the process again each year in time for providing input to the following year’s program objective memorandum.

“It’s all about finding resources within the budget we’ve been given to accelerate the critical capabilities for our future warfight, or to go after new programs, new technologies, for that future warfight,” Murray said.