

**RECORD VERSION**

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**BEFORE THE**

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## **INTRODUCTION**

Chairman Cotton, Ranking Member King, distinguished Members of the Senate Armed Services Subcommittee on Airland, thank you for your steadfast support and demonstrated commitment to our Soldiers, our Civilians, and their Families. On behalf of the Secretary of the Army, the Honorable Mark T. Esper, and the Army Chief of Staff, General Mark A. Milley, we thank you for this opportunity to appear before you today and look forward to our discussion.

A modern Army must be well-equipped. It must possess the most advanced, capable, reliable, and survivable weapon systems and equipment that will guarantee our Soldiers a clear advantage in all future conflicts. Air and ground force modernization remains an urgent necessity. We must have an Army prepared for high-intensity conflict that is modernized to extend overmatch against near-peer adversaries. The Army must be trained to fight as part of the Joint Force alongside our allies and partners, and sustain the ability to conduct irregular warfare.

For nearly two decades, the Army has deferred modernization in order to support continuous combat operations all while the global security environment has grown more competitive and volatile. Army leadership has recognized the need for fundamental change, and reorganized our entire modernization enterprise for greater speed and efficiency. Last year, the Army made its most significant organizational restructure in over 40 years by establishing the Army Futures Command (AFC). For the first time, one command is driving concept development, requirements determination, organizational design, science and technology research, and solution development. AFC is guided by a clear set of modernization priorities that emphasize rapid maneuver, overwhelming fires, tactical innovation, and mission command.

## **THE STRATEGIC ENVIRONMENT**

Today, our operating environment is changing rapidly, marked by uncertainty and an increasing pace of events. As the *2018 National Defense Strategy* indicates, strategic competition between nation states now surpassing violent extremism as the central challenge to American prosperity and security. The NDS prioritizes China and Russia as the respective primary long-term and near-term threats for the U.S. Military.

Both Russia and China have embarked on an energetic push to reestablish influence, security, buffer zones, and national prestige. This is occurring in real time today in places like Ukraine, Syria, and the South China Sea. While we spent more than 15 years focused on operations in Iraq and Afghanistan; Russia, China, and other potential adversaries such as Iran and North Korea, have studied us closely. They have used those lessons learned to develop new approaches to conflict designed to exploit the gaps and seams within our military capabilities.

Russia, China, and other potential adversaries intend to use their weapons and tactics to deny us access to key geography in theaters of operation. To accomplish this, they have developed sophisticated anti-access and area denial (A2/AD) systems, fires, cyber, electronic warfare, and space-based capabilities that generate layers of stand-off to disrupt the deployment of military forces, deny the build-up of combat power, and separate Joint Force and allied capabilities in time and space. By making it so difficult and costly for us to act, China and Russia are hopeful we will be deterred from even entering into a conflict and simply acquiesce to their strategic misbehavior.

Their A2/AD strategy relies on new capabilities intended to provide overmatch against U.S. capabilities that we have allowed to age and atrophy or that we have chosen to divest due to obligations in support of counterinsurgency investments. While potential adversaries have modernized their forces, the U.S. Army has essentially missed an entire generation of modernization. Meanwhile, the military modernization enterprise has become a Gordian knot of laws, regulations, risk averse organizations,

and byzantine bureaucratic processes. These processes – along with overly ambitious requirements, technology immaturity, and scarce resources – have led to the delay and cancelation of new systems while incrementally modernizing existing systems at increasingly greater cost.

As we look ahead, we must ensure that we have the right concepts, capabilities, and organizations to deter Russia, China, and any other rising powers from any potential aggression. Our concepts and capabilities must be fully integrated and built based on how we will fight, not on how we would like to fight. Additionally, we must do this while growing and maintaining our readiness to make sure we always retain the advantage. We must make it very clear that we can defeat A2/AD, and it will neither stop us nor rip apart the fabric of our alliances.

The Multi-Domain Operations (MDO) concept will inform our modernization effort. The MDO Concept details how the Army, as part of the joint force, continuously and rapidly integrates cross-domain capabilities to defeat an adversary's efforts to create stand-off. Army forces, as an element of the Joint Force, conduct MDO to prevail in competition. Specifically, Army forces penetrate and disintegrate enemy anti-access and area denial systems, exploit the resultant freedom of maneuver to achieve strategic objectives, and force a return to competition on favorable terms.

## **MODERNIZING THE FORCE**

The Army Modernization Strategy (AMS) 1.5 will describe how the U.S. Army will modernize in order to become a multi-domain capable force by 2028. This strategy outlines the ends, ways, and means for modernizing our Army to win future wars directly supporting the NDS line of effort “Build a More Lethal Force” and the Third Pillar of the *2017 National Security Strategy*, “Preserve Peace through Strength.”

The Army has identified six enduring Modernization Priorities and is laser-focused on regaining superiority over our peer and near-peer competitors. The Fiscal

Year 2020 (FY20) President's Budget Request is the first budget in decades to begin to fully fund our modernization priorities. The FY20 budget requests \$8.9B to support the Army's Modernization Priorities, which represents a \$3.9B increase over the FY19 enacted level. Across the Future Years Defense Program (FY20-24), we are committed to investing a total of \$51.7B to support the six Modernization Priorities. We are significantly increasing investment in our priorities to escalate the pace of technological development in areas where we face the greatest capability shortfalls. We must aggressively pursue these initiatives in FY20 in order to start fielding the next generation of combat vehicles, aerial platforms and weapon systems by 2028, the timeframe we anticipate Russia will realize its modernization goals. The FY20 Budget includes:

- Long Range Precision Fires (LRPF) – requests \$1.3 billion for prototyping and initial fielding; improving range and lethality of cannon artillery and increasing missile capabilities. Includes funding for:
  - Hypersonic systems by 2023 to stay ahead of recent Russian and Chinese advances and put their forces at risk from a distance; Precision Strike Missile (PrSM) provides increased range, lethality, pod capacity, and survivability.
  - An Extended Range Cannon Artillery (ERCA) with the capability to fire artillery up to 70 kilometers, with more precision and volume than current systems;
  - A strategic long-range cannon with a range that will exceed 1,000 miles.
- Next Generation Combat Vehicle (NGCV) – requests approximately \$2 billion to deliver the next generation of combat vehicles with greater firepower, mobility and protection than our current fleet. Includes funding for:
  - An optionally manned fighting platform that maneuvers Soldiers to a point of positional advantage to engage in close combat and deliver decisive lethality;

- Robotic combat vehicle variants to enhance our future force's ability to deliver decisive lethality, increased situational awareness, and formation overmatch.
- Future Vertical Lift (FVL) – requests approaching \$800 million to develop initial designs of manned systems and demonstrate unmanned systems with extended range, endurance and lifting capacity. Includes funding for:
  - A future attack reconnaissance aircraft (FARA) that will include sensor and network packages that can coordinate with other aerial, long range precision fire, and ground platforms – optionally manned.
  - A future long range assault aircraft (FLRAA) that can fly at 250-280 knots and operate in a degraded visual environment – optionally manned;
- Army Network – requests almost \$2.3 billion to build an integrated tactical network that supports continuous integration of combined arms and Joint capabilities. Includes funding for:
  - A unified and resilient network effective in the most challenging contested and congested environments that leverages commercial satellites and has the capability to survive in a near-peer fight while providing direct support for our brigade combat teams.
  - Assured Position Navigation and Timing (A-PNT) systems work to overpower, navigate through, and mitigate jamming to ensure our warfighters overmatch threats in an electronically contested environment.
- Air and Missile Defense (AMD) – requests approximately \$1.4 billion to deliver initial capabilities that protect joint operations against adversary aircraft, missiles and drones. Includes funding to:
  - Revitalize our atrophied mobile short range air defense to emerging near-peer capabilities in the MDO environment. This includes both theater systems and short range air defense.

- Indirect Fire Protection Capability (IFPC) provides protection of fixed and semi-fixed sites from unmanned aerial systems (UAS); cruise missiles (CM); and rocket, artillery, and mortar (RAM) projectiles.
- Soldier lethality requests approximately \$1.2 billion to rapidly improve the individual lethality of the Close Combat Force by treating the Soldier/Squad as integrated combat platform. Includes funding for:
  - Integrated Visual Augmentation System (IVAS) with a heads-up display, which will provide augmented reality, digitally fused thermal and image intensifying capabilities, and synthetic training environment which will ultimately change how our Soldiers train, rehearse and fight on the battlefield.
  - Synthetic Training Environment (STE) will converge our current Live, Virtual, Gaming, and Constructive environment into a single simulation training environment that will provide common global terrain established through common data within an open architecture and common application programming interfaces.
  - Next generation squad weapon (NGSW), which includes both an automatic weapon and rifle that leap ahead from a World War II physics design, extending range and capability at target with the most capable small caliber weapon and ammunition to achieve overmatch against current and future adversaries.

Under AFC, there are eight Cross-Functional Teams (CFTs) focused on 31 signature systems. Six of the CFTs are aligned to each Army Modernization Priority plus two additional CFTs are aligned to A-PNT and STE. The CFTs are resourced and empowered to rapidly generate cost-efficient capabilities that ensure overmatch against potential adversary capabilities, and can be rapidly fielded to warfighters.

## **THE ENTERPRISE**

The Army's Future Force Modernization Enterprise, or FFME, describes the Army's expertise, organizations, and infrastructure for rapidly developing and delivering the future force. Its responsibility spans from identification of future threats and opportunities all the way to first unit equipped. The FFME includes three primary organizations responsible for modernization: AFC; the Assistant Secretary of the Army for Acquisition, Logistics, and Technology (ASA(ALT)); and the Army Deputy Chief of Staff, G-8 (DCS, G-8). However, FFME also extends to Army Commands, such as the U.S. Army Training and Doctrine Command and the U.S. Army Materiel Command; the Department of Defense and Joint community; and to external partners across industry, academia, and others.

The key to the FFME is synchronization through inclusivity. Each of the organizations is focused on a particular portion of modernization, enabling them to focus resources and expertise together, while reducing redundancy. The FFME makes use of one of the "principles of war" – unity of effort – to largely eliminate bureaucratic infighting.

The FFME unity of effort drives a process of early teaming between requirements development, Research and Development, Test and Evaluation, and acquisition communities to support rapid innovation through Soldier touchpoints, demonstrations, prototyping, experimentation, and analysis. This process is designed to build velocity for validated requirements, to reduce the challenge of technology transition through the "valley of death," and to support seamless progression into the acquisition life-cycle.

The process works like this: AFC creates concepts for how Army forces will fight in the future. AFC then experiments to inform requirements. While not all initiatives need to be prototyped, once an initiative is mature enough, ASA(ALT) acquires and fields it. The Army DCS, G-8 matches resources to these requirements, based on Army



strategic plans and Army concepts. Together, these organizations usher lethal, modern capabilities and formations from conceptual idea to a fielded reality in Soldiers' hands.

AFC's directorates bring together organizations that were previously scattered across the force, with little coordination. All of the Army's organizations that have a role in future studies, concepts development, capabilities development, experimentation, testing, and prototyping will work together in a coordinated effort. By bringing unity of effort and unity of command, AFC provides the same synchronization to these organizations that the FFME provides to the Army writ large.

ASA(ALT) will continue its supervision of the Department of the Army's acquisition, logistics, and technology efforts. The Army Acquisition Executive retains his authority and responsibility for Army Acquisition to deliver capability to Soldiers in order to achieve the modernization priorities and requirements as identified by AFC. In addition, ASA(ALT) continues to provide policy guidance and identify ways to streamline and improve acquisition processes, and maintains responsibility of training, educating and managing the Army acquisition workforce to deliver the right capability, at the right time, at an acceptable cost.

This unity of effort will enable the Army to utilize our world-class military and civilian workforce, incorporate constant Soldier input, and then partner with innovative industries, entrepreneurs, academics, scientists, and engineers. That is how we will imagine, test, and build the capabilities future Soldiers will need.

The Army continues to implement the past acquisition reform initiatives that Congress has authorized such as Section 804 Middle Tier Acquisition (MTA) from the Fiscal Year 2016 National Defense Authorization Act, Other Transaction Authority (OTA), and the prototyping of weapons systems components. With the requisite level of acquisition authority, the Army is using Section 804 to accelerate select efforts linked to the Army's Modernization Priorities. Examples of these efforts include: ERCA, IVAS, Lower Tier Air and Missile Defense Sensor, NGCV, NGSW, Mobile Protective

Firepower, Rapid Opioid Countermeasures System, and Standoff Activated Volcano Obstacle.

## **CONCLUSION**

In summary, Army Modernization is driven by the impetus of increasingly capable near-peer competitors with advanced A2/AD capabilities. Our past focus on equipping for the near-term at the expense of preparing for the future will no longer suffice. Today's Army Modernization efforts are linked directly to challenges outlined in the NDS, and are focused on the enduring Army Modernization Priorities.

Army senior leader emphasis is enabling the FFME. AFC, ASA(ALT), and DCS, G-8 – are working together in a new way, leveraging authorities derived from Congress to improve the way we do business to free up resources that will make the Total Army more lethal, capable, and efficient. This extends to subordinate organizations within the FFME, such as the CFTs.

The Army is moving quickly to address modernization shortfalls in process, resourcing, and output – and we are seeing results. Time is not on our side. With continued support from Congress, including predictable, adequate, sustained, and timely funding, the Army will build a force ready to deter potential adversaries. If deterrence fails we will be able to rapidly deploy, fight, and win as part of the Joint Force.

Thank you again for this opportunity to discuss Army Modernization and for your strong support of our Soldiers, Army Civilians, and their Families. We look forward to your questions.