

RECORD VERSION

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BEFORE THE

**SUBCOMMITTEE ON AIRLAND
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ON

ARMY MODERNIZATION

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INTRODUCTION

Chairman Cotton, Ranking Member King, distinguished Members of the Senate Subcommittee on Airland, thank you for your continued support and demonstrated commitment to our Soldiers, Army Civilians, Families, and Veterans. On behalf of our Army Secretary, the Honorable Mark Esper, and our Chief of Staff, General Mark Milley, we thank you for the opportunity to appear before you today. We look forward to discussing Army Modernization with you.

Modernization is critical to the future of our Army. For the last several decades, the U.S. Army possessed overmatch based on its qualitative edge in capabilities. It enabled our Army to defeat enemy formations, underpin credible deterrence, and serve as a critical pillar of Joint Force capabilities in all domains – air, land, maritime, space, cyberspace, and the electromagnetic spectrum. Now, a combination of strategic, technological, institutional, and budgetary trends places at risk the Army's competitive edge over peer adversaries in the next fight.

The Army has reached an inflection point: we can no longer afford to choose between improving our existing systems and developing new ones. We must do both. The American people expect their Army to win, and meeting this expectation requires the Army to maintain overmatch against emerging threats and adversaries. While we continue to work hard to improve our readiness, we now need to expand our focus on a dedicated and robust modernization effort. As you know one of the most critical elements in achieving this objective is sufficient resources. We believe that when you see the Fiscal Year 2019 Budget Request, it will be clear that the President is committed to restoring the military, especially in the case of equipment modernization.

Building on the FY18 President's Budget, we believe this budget will continue to reverse the downward trend that has stifled Army modernization and serve as an important step towards expanding and maintaining overmatch. We will seek to employ these funds in the most efficient and effective manner by turning ideas into actions through continuous experimentation and prototyping, reforming our acquisition processes, leveraging

technology, and improving training. This will ensure that future generations of American Soldiers remain the most lethal fighting force in the world.

THE STRATEGIC ENVIRONMENT

The U.S. Army, as part of the integrated Joint Force and working with a capable network of partners and allies will continue to provide combat-credible land forces to protect the homeland, deter our adversaries, and if called upon, decisively win our Nation's wars. Today's national security environment is typified by the reemergence of long-term strategic competition with revisionist powers who use their position within the international order to revise international norms in their favor. The United States is being challenged to maintain dominance across domains, and both state and non-state actors are increasingly capable of threatening the U.S. homeland. Rapid technological advancements put military and other disruptive technologies in the hands of both state and non-state actors.

China's expansive territorial claims as well as its investment in multi-layer Anti-Access/Aerial Defense systems strains international relations in the South China Sea. Additionally, China's economic resources and the government's ability to direct investments positions them to make rapid technological advancements especially in advanced computing, artificial intelligence, robotics, and "big data." The disruptive nature of these fields will continue to challenge the U.S. military across all domains well into the future. To assist with mitigating these risks, the U.S. Army will strengthen its ties with regional allies and partners to maintain the international order, protect access to the global commons, and preserve regional stability.

Russia is also seeking to undermine European and Middle Eastern security and economic structures through conflicts below-the-threshold of war. Russia is using information operations and commercial technology to weaken democratic processes across the western world. Russia's military modernization efforts, expanding nuclear arsenal, and increased operations in the Middle East typify its high disruption approach to reshaping the international order. To help alleviate these risks, the Army will maintain its forward presence in Europe and the Middle East and continue to build interoperability

with allies and partners to demonstrate its commitment to countering Russian aggression.

Rogue regimes such as North Korea and Iran continue to pursue destabilizing tactics and technologies to ensure regime survival and increase their own power. North Korea continues to pursue ballistic missiles, weapons of mass destruction, and cyber weapons to threaten the U.S. homeland. Iran is using both conventional missiles and state-sponsored terrorism to destabilize the Middle East and increase its regional influence. Forward presence and strong partnerships are important components of the U.S. Army's ability to deter and counter these threats. As part of the Joint Force, the Army will be prepared to respond to either aggression or weapons proliferation by these rogue regimes.

Commercially accessible rapid technological advancements provide terrorists and other non-state actors with more sophisticated tools with which to advance their political, criminal, or other disruptive objectives. The rapid proliferation of low-cost new technologies increases the capabilities of these malicious actors. The U.S. Army will work as part of multinational, interagency, and public-private coalitions to detect and counter these threats. We will seek out capable partners and support their efforts to address the underlying structural, economic, and security challenges that allow these threats to persist. While the mitigation actions described above are necessary to address present and future threats, they are only part of the solution. In this era of increased complexity, lethality, and competition the U.S. Army will carefully assess the threats we face and make prudent investments in readiness and modernization to meet our national security responsibilities.

THE URGENCY OF MODERNIZATION

For the past several years, the Army has been focused on the near-term demands of the protracted campaigns in Afghanistan and Iraq, supporting our allies in Europe and Asia, and protecting the homeland. The necessary emphasis on these missions, combined with constrained resources, slowed, deferred, and in some cases, halted the development of new platforms and capabilities. Additionally, because these operations

required shifts in Army capabilities to meet rotational demands and because U.S. Forces were not contested in the air or maritime domains, the Army reduced or eliminated several capabilities that are vital to large scale combat operations against highly capable adversaries. Our potential adversaries have not been so constrained. Analysis of potential peer competitors' emerging concepts, doctrines, and capabilities strongly suggests they are concentrating efforts between now and 2035 to develop and implement modernized capabilities and hybrid strategies to deny U.S. Forces' ability to project military power and conduct integrated Joint Force operations. Additional efforts emphasize the development of conventional forces with advanced armored vehicles – some of them robotic or autonomous – using extended range munitions, protected by Active Protection Systems, supported by electronic warfare and fires capabilities, and maneuvering into the close fight protected by an Integrated Air Defense (IAD) umbrella. Potential peer competitors have demonstrated they can and will operate with and through proxies and surrogates, artfully employing all elements of national power to achieve their strategic objectives. In this environment, adversary operational systems can exploit existing U.S. weaknesses, such as force deployment responsiveness due to time and distance and vulnerabilities in the homeland and partner nations such as fixed bases, ports, and domestic population. If the Army does not modernize its force to build greater capacity and capabilities to expand and maintain overmatch, we face a future where our formations are out-matched in high-end conventional combat.

The Army's last broad-based modernization occurred in the 1980s. The character of war has changed, and the Army must adapt and innovate faster. Past ways of thinking, organizing, and executing have limited our ability to keep pace with technological development and our potential adversaries. The speed of change in warfighting concepts, threats, and technology is outpacing current Army modernization. Potential adversaries and the industries that support them are integrating technology and capabilities at a much faster rate. The Army is engaged in a protracted struggle to out-innovate our future competitors, and right now, we are not postured for success. Unless action is taken soon, there is the distinct possibility that future adversaries will constrain our Nation's options to deter and defeat them. Without support for increased and stable modernization funding, such actions portend a future with the prospect of increased

military risk – that of the inability to deter conflict, losing a war, failing to advance or defend national interests, and suffering an unacceptable toll in casualties.

MODERNIZING THE FORCE

The Army Modernization Strategy has one focus: make Soldiers and units more lethal so they can fight and win our Nation's war. It is established upon a vision for the Future Army and the challenges present in balancing near-, mid-, and far-term investments. This singular strategy identifies the ends needed for the Army to accomplish its future mission, organizes the ways, and aligns the means using the resources and activities of the Army's science and technology, capabilities development, and acquisitions enterprise to mitigate tactical, operational, and strategic risk across all time horizons. To provide a comprehensive plan for modernization, the Army establishes and aligns modernization objectives and organizations to orient on potential military peers for the current, next, and future fights that span across and beyond the Future Years Defense Program. All of this must be done within a 21st Century system that provides for unity of effort in support of the modernization process and allied interoperability from the outset.

As our draft strategy lays out, first and foremost, we must return to mastering the fundamentals of shoot, move, communicate, protect, and sustain better than any potential adversary. In the near-term, the Army will invest in capabilities that address critical gaps and improve lethality to expand and maintain overmatch against peer competitors. In the mid-term, the Army will develop, procure, and field next generation capabilities to fight and win in Multi-Domain Battle. In the far-term, we will build an Army for a fundamentally different conflict environment – one that will require us to exercise mission command across dispersed and decentralized formations, leverage disruptive technologies at the small unit level, and operate with and against autonomous and artificial intelligence systems, all at an accelerated speed of war.

To accomplish these objectives, this year we plan to selectively upgrade the equipment we have and focus our Science and Technology and Research, Development, Test and Evaluation funding on the six Army Modernization Priorities. The six prioritized

capability areas naturally align with the Army fundamentals of shoot, move, communicate, protect, and sustain.

- Our first modernization priority is to restore the Army's Long Range Precision Fires capabilities in order to regain our dominance in range, lethality, and target acquisition. We must provide Combatant and Joint Commanders surface to surface firepower that is precise, responsive, effective and adaptable. It is essential that fire support protects and ensures freedom of maneuver to forces in contact with the enemy in deep, close, and rear operations.
- Our second modernization priority is Next Generation Combat Vehicles. A next generation vehicle is needed to enhance Soldier protection, increase mobility, and make our forces more lethal to our enemies. These vehicles must adapt with technology and operate manned or unmanned. The Army's current fleet of tanks and infantry fighting vehicles are nearing the end of their ability to integrate additional advanced technologies that enable either near-term overmatch or future dominance.
- Our third modernization priority is Future Vertical Lift (FVL) platforms – reconnaissance, attack, assault – that are survivable on the modern and future battlefield. Current aircraft designs have reached the limits for significant incremental improvements. The FVL is an Army-led, multi-service initiative, focused on restoring vertical lift dominance with next generation reach, protection, lethality, agility, and mission flexibility. Systems should also benefit from improved power generation, autonomy, artificial intelligence, and manned-unmanned teaming.
- Our fourth modernization priority is to modernize the Army Network. We must have a communications system that is intuitive, mobile, expeditionary, and can be used to fight cohesively in contested cyber and electromagnetic environments. The Army Network should incorporate electronic warfare; resilient, secure, and interoperable hardware; software and information systems; assured position, navigation, and timing; and low signature networks.

- Our fifth priority is to modernize and restore our Air and Missile Defense systems to ensure our future combat formations are protected from modern and advanced air and missile delivered fires – including drones. The most critical gap remaining after currently planned systems are fielded is that maneuver formations lack air and missile defense. We are focusing on capabilities that include Mobile Short-Range Air Defense, directed energy, and advanced energetics.
- Finally, we must aggressively enhance Soldier lethality, a holistic series of capabilities that span all fundamentals including shooting, moving, communicating, protecting, and sustaining. The Army's foundational capability is Soldier and team performance. Unlike other services, the Army fits machines to Soldiers rather than the other way around. In this area, we will field not only next generation individual and squad combat weapons, but also improved body armor, sensors, radios, and load-bearing exoskeletons.

To implement this strategy, the Army is currently undertaking a series of acquisition reform efforts designed to promote unity of effort, unity of command, efficiency, cost effectiveness, and leader accountability. Part of this effort is the establishment of a three-star-level task force responsible for mapping out options to consolidate the modernization process under one command. To develop and deliver better solutions faster, the early integration of concept and testing will allow the Army to fail early and cheaply as we experiment, prototype and test, thus increasing the probability of success by learning from early failures. Critical to this effort is the establishment of Cross-Functional Teams (CFTs) for each of the identified modernization priorities. Each CFT will incorporate elements from acquisition, testing, resourcing, and capability development communities and directly report to Army senior leaders.

THE DEFENSE INDUSTRIAL BASE

The past trends of constrained resources in the Army's modernization account have led to significant challenges for the Defense Industrial Base (DIB), especially for companies that cannot leverage commercial sales and for small companies that must diversify

quickly to remain viable. When developing our equipment modernization strategy, we have carefully assessed risk across all portfolios to ensure balanced development of new capabilities, incremental upgrades to existing systems, and protection of critical capabilities in the commercial and organic elements of the DIB.

The Army remains concerned about the preservation of key skills and capabilities in the engineering and manufacturing bases for our original equipment manufacturers and their key supplier bases. Collaboration with our industrial base partners early in the process helps reduce risk. Efforts such as the Army Manufacturing Technology Program has provided affordable and timely manufacturing solutions that assist our industry partners to address manufacturing and producibility risks. Also, the Army supports efforts to develop Foreign Military Sales (FMS) and Direct Commercial Sales to ensure sustainment of critical production lines in the DIB.

The Army continually assesses risk in the Industrial Base across all Army portfolios. Fragility and Criticality (FaC) assessments identify the fragile and critical portions of sectors within the DIB to facilitate the identification of risk mitigation strategies. The FaC assessments provide Army program offices: 1) the information to identify how funding adjustments could affect suppliers that provide the products, skills, and services needed to maintain readiness, and 2) information to support investment decisions to mitigate supplier risk.

The Army also continually assesses the health of the organic industrial base (OIB), including our depots, arsenals, ammunition plants, munitions centers, and Government-owned Contractor-operated plants. The Army maintains critical skill sets in our OIB by identifying workload to preserve capabilities, exploring FMS opportunities, and encouraging our OIB facilities to partner with commercial firms and other Department of Defense organizations, such as the Defense Logistics Agency, to meet future requirements. We continue to modernize our OIB infrastructure, as needed, to support readiness.

IN CONCLUSION

We sincerely appreciate the opportunity to address the challenges the Army faces in maintaining readiness and modernizing its force. We are grateful for Congress's efforts to increase Army force structure. The Army will apply the increased end-strength authorized by the last two National Defense Authorization Acts to ready combat formations to deter our adversaries, and if called upon, decisively win our Nation's wars. Additionally, we believe that the President's commitment to restoring the military will be clearly evident in the Fiscal Year 2019 Budget Request, especially in Army modernization. We believe it will be a good start towards reversing the historical and significant shortfalls in modernization funding, but one year will not, by itself, reverse the trend. We must have predictable and adequate funding across the Future Years Defense Program and beyond.

We can assure you that the Army's senior leaders are intently working to address current challenges and the needs of the Army both now and in the future. We are doing so with a commitment to be good stewards of our Nation's resources while meeting the readiness, equipping, and modernization needs of our Soldiers.

Mr. Chairman and distinguished Members of this Subcommittee, we sincerely appreciate your steadfast and strong support of the outstanding men and women in uniform, our Army Civilians, and their Families.