RECORD VERSION

STATEMENT BY
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AND
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BEFORE THE

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Introduction

Chairman King, Ranking Member Fischer, and distinguished members of the Subcommittee, thank you for your continued support for our service members, civilians, and families and your continued support for the Army, U.S. Strategic Command (USSTRATCOM), U.S. Space Command (USSPACECOM), Department of Defense (DoD), and the space and missile defense community. Thank you also for inviting me to highlight the importance of space and missile defense capabilities and ongoing enhancements that enable the defense of our Nation, forward stationed and deployed forces, allies, and partners.

Today, with my assigned roles, I bring both an Army and a joint perspective on effective space and missile defense concepts and capabilities. Within the Army and joint communities, my responsibilities encompass several mission areas.

As commander of the U.S. Army Space and Missile Defense Command (USASMDC), I serve as the Army's force modernization proponent and operational integrator for space, missile defense, and high-altitude capabilities. In short, USASMDC provides trained and ready space and missile defense forces and capabilities to the warfighter and the Nation. With regard to missile defense, I am the Army Service Component Commander responsible for planning, integrating, coordinating, and providing Army missile defense forces and capabilities in support of USSTRATCOM missions. Additionally, I am a supporting commander to the Commander, U.S. Northern Command (USNORTHCOM), for the Ground-based Midcourse Defense (GMD) System. In the space mission area, I am the Army Service Component Commander to USSPACECOM, providing trained and ready Army space warfighters and capabilities to compete, fight, and win in the space domain.

As the Army's air and missile defense (AMD) enterprise integrator, I synchronize the balanced execution of the Army's AMD posture across the functions of force planning and sourcing requirements, combat and materiel development, AMD acquisition, and life cycle management. I coordinate with the AMD community of interest to balance priorities, inform resourcing decisions, and pursue innovative approaches to fulfill our AMD mission requirements.

Finally, as Commander of USSTRATCOM's Joint Functional Component Command for Integrated Missile Defense (JFCC IMD), I am responsible for providing operational-level comprehensive missile defense expertise in support of USSTRATCOM's Unified Command Plan (UCP)-assigned trans-regional missile defense (MD) mission. This trans-regional MD mission includes plans and policy support and assessment, integration of MD security cooperation activities, operations support, joint MD training, education, and exercise support, and support to missile defense capability development on behalf of the combatant commanders (CCDRs), the Joint Staff and the Secretary of Defense. These efforts contribute to an integrated deterrence approach that denies the benefits of missile attack to adversaries, assures allies, and defends U.S. deployed forces, allies, and partners.

The operational environment continues to evolve at unprecedented speed. China continues to bolster its anti-access/area denial strategy in the Western Pacific and pressure its neighbors with increasingly provocative behavior. In their unprovoked invasion of Ukraine, the Russian Federation launched an unprecedented number of offensive missile systems, including hypersonic weapons. China, Russia, and other potential adversaries form a globally capable, mutually supporting, threat set. The United States and our allies face significant increases in the density, diversity, and operational reach of lethal offensive missile systems. The proliferation, range, and maneuverability of these weapons require an increasingly trans-regional approach to missile defense. The sensors; battle management, command, control and communication and intelligence (BMC3I) architectures; and other supporting components of trans-regional missile defense will progressively migrate to space-based platforms such as the Space Development Agency's Proliferated Warfighter Space Architecture in the years to come. This greater emphasis on the convergence of space and missile defense is the logical extension of our need to evolve our means for birth-to-death tracking and targeting complex missile and hybrid hypersonic threats from a position of advantage. However, given the scale of the problem, these new tracking and warning capabilities must be complemented by a broader whole-of-government approach to comprehensive missile defeat, leveraging the full range of available activities and capabilities to counter both the use of adversary missiles, and their

development, acquisition, and proliferation. The trans-regional missile defense contribution to this missile defeat initiative includes existing as well as new and novel approaches to negate adversary systems both before and after launch without reliance on the increasingly difficult hit-to-kill mechanisms of our legacy missile defense systems. Integrating this diverse set of capabilities focused specifically on this initiative is critical to its success.

We must advance trans-regional missile defense through continued investment and sustainment of combat-ready, integrated, capable, and lethal air and missile defense and space capabilities, combined with those of our allies' and partners' as part of a comprehensive approach to missile defeat supporting integrated deterrence. This remains essential in ensuring our Nation's security.

People First

USASMDC and JFCC IMD, comprised of multi-component Soldiers, Airmen, Sailors, Marines, Guardians, and dedicated civilians and contractors, cannot carry out our wide-ranging, no-fail national security missions without the commitment of our greatest asset—our people. We prioritize "People First" as we recruit, train, and develop space and missile defense professionals. Our People First mandate has six values: communication, recognition, trust, teamwork, transparency, and empowerment. Despite the many challenges introduced by the COVID-19 pandemic, our professionals continued providing space and missile defense capabilities that support combatant command (CCMD) plans and operations. It is our people who make us strong; it is our people who make winning possible.

U.S. Army Space and Missile Defense Command

To accomplish our vision of providing space, missile defense, and high-altitude forces and capabilities to support joint and combined warfighting readiness in all domains, USASMDC is organizationally aligned to accomplish three major tasks. These are: providing forces and capabilities for current operations; preparing forces and capabilities for the future fight; and researching and developing Army technologies to provide future advancements in space, air, and missile defense capabilities.

The command aligns its activities to these priorities:

- Accomplish our mission as a People First team of empowered, innovative, ready, and resilient professionals.
- Provide trained and ready forces for space, missile defense, and high-altitude missions.
- Conduct integrated planning and synchronized operations in the execution of our space and missile defense missions.
- Prepare for future conflict.

Recent Contributions and Upgrades to Army Space and Missile Defense Capabilities

The people of USASMDC and JFCC IMD continue to learn new ways to operate, accomplish our missions, enhance capabilities, and support global theaters. Throughout the last several months, we have realized essential space and missile defense operational, capability, and training successes, a few of which follow.

- We are currently upgrading our Joint Tactical Ground Stations (JTAGS) configuration at our four theater missile warning company locations. Once fielded, this upgrade will significantly improve our missile warning, missile defense cueing, and battlespace characterization capabilities in support of multidomain operations, and it will enable us to keep pace with rapidly growing, complex, and capable threat systems.
- In March 2022, the Army relocated two European-based Patriot missile defense batteries to Poland. This defensive relocation reinforces our Nation's commitment to Article 5 and to proactively deter any threats on NATO's Eastern flank.
- During a March 2022 joint exercise, a subordinate air defense regiment under the European-based 10th Army Air and Missile Defense Command successfully deployed four Maneuver-Short Range Air Defense (M-SHORAD) Stryker-based platforms to the eastern NATO region. This deployment demonstrated the Army's newest short-range air defense system's ability to defend maneuver forces against unmanned aerial systems (UAS), rotary-wing, and fixed-wing air threats.
- Our Army Space Training Division (ASTD) served as the lead proponent for equipping Army divisions and training centers with essential training aid devices

that enable organizations to train in a degraded and disrupted space operations environment. With fielding completed, ASTD will lead future efforts on life cycle replacement of these devices.

- The USASMDC Technical Center leveraged commercial synthetic aperture radar imaging of current interest locations and, using artificial intelligence and machine learning algorithms, provided key operational data to tactical warfighting organizations.
- Support to significant testing and exercises remains a priority. Earlier this year, Air Defense Artillery (ADA) soldiers participated in the Terminal High Altitude Area Defense (THAAD) Flight Test-21, where two Patriot Advanced Capability-3 (PAC-3) Missile Segment Enhanced (MSE) interceptors were integrated with THAAD software to successfully intercept two short-range ballistic missiles. This integration enables earlier interceptor launch and results in a longer fly-out time, which increases the defended area or battlespace. Our ADA soldiers also recently participated in the initial operational test and evaluation of the successful Integrated Air and Missile Defense Battle Command System (IBCS) test. During this event, IBCS maintained continuous tracking of two cruise missile targets by fusing data from multiple sensors while degraded by an electronic attack. Finally, we continue to deploy Army space professionals to numerous joint and partner nation exercises and wargames.
- In addition to exercise support, operational deployments to CCMDs continue. Our 1st Space Brigade rotated an Army Space Control Crew to U.S. Indo-Pacific Command (USINDOPACOM), an Army Space Support Team to both U.S. Central Command (USCENTCOM) and U.S. European Command (USEUCOM), and Space Control Planning Teams to USEUCOM and USSPACECOM.
- Our Force Tracking Mission Management Center continues to support global operations in the USCENTCOM, U.S. Africa Command, and other CCMD geographic areas of responsibility. The Center provided vital management and dissemination of friendly force tracking data to theater commands.
- Our Advanced Warfare Environment / Tactical Geospatial Environment system developed to provide AMD Intelligence Preparation of the Battlespace for Army

AMD units has proven to be a primary analysis system used by the Missile and Space Intelligence Center to analyze and document Russia-Ukraine missile operations for intelligence community assessments.

Providing Forces and Capabilities for Current Operations

In accordance with Title 10 responsibilities, USASMDC is a force provider of missile defense capabilities. Our first major task is to provide trained and ready missile defense forces and capabilities to CCDRs. USASMDC soldiers serving in the homeland and stationed in remote and austere forward locations operate the GMD and AN/TPY-2 Forward-Based Mode (FBM) radars. Highlights of the capabilities provided to current operations and readiness by our missile defense professionals include:

Support to Homeland Missile Defense: Soldiers from the 100th Missile Defense Brigade (MDB), headquartered in Colorado Springs, Colorado, and 49th Missile Defense Battalion, headquartered at Fort Greely, Alaska, stand ready to defend our Nation from intercontinental ballistic missile (ICBM) attack 24/7/365. In support of USNORTHCOM, Army National Guard and Active Component soldiers operate the GMD Fire Control Systems located at the Fire Direction Center in Alaska; Missile Defense Element in Colorado; a detachment that oversees operations at Vandenberg Space Force Base, California; and a detachment that secures GMD sensor infrastructure at Fort Drum, New York. At the Fort Greely Missile Defense Complex, the 49th Missile Defense Battalion military police, with augmentation from the Mississippi National Guard, secure interceptors and command and control (C2) facilities from physical threats. These security soldiers perform their duties in some of the most austere conditions in the United States, with winter temperatures plummeting to 50 degrees below zero and fewer than 4 hours of sunlight in the winter months.

1st Space Brigade soldiers provide CCDRs certified AN/TPY-2 FBM missile defense batteries that support strategic and regional missions. These batteries are globally located in five strategic, yet remote and austere locations, where they provide ballistic missile search, track, and discrimination operations, as well as Space Domain Awareness, in support of both homeland and regional defense and USSPACECOM's Global Sensor Manager responsibilities. These soldiers continuously demonstrate our

Nation's commitment to defend deployed forces, allies, and partners from ballistic missile attacks.

Support to Global Missile Defense Test and Development: Soldiers from the 100th MDB and 49th Missile Defense Battalion participate in GMD test activities and work with Missile Defense Agency (MDA) developers on enhancements to the GMD. The MDA's testing regime, conducted through a series of ground-based and operational flight tests, emphasizes operational realism during test design and execution. This realism enables system operators to sustain and improve their proficiency and validate the system's operational employment.

Global Missile Defense System Development: MDA continues to evolve the GMD weapon system to enhance existing capabilities, as well as deliver new capabilities. The Next Generation Interceptor (NGI), once developed and fielded, will be a significant upgrade compared to the current interceptor fleet, providing the warfighter with improved system performance and greater reliability.

Space Support to Missile Early Warning: Space-enabled capabilities are essential for missile defense operations. They provide and enable communications; positioning, navigation, and timing (PNT); intelligence; and surveillance to meet the demands of modern warfare. In support of joint force commanders, USASMDC continues to provide missile warning within the USEUCOM, USCENTCOM, and USINDOPACOM theaters of operations. The 1st Space Brigade's forward stationed JTAGS theater missile warning companies are essential for USSPACECOM's assured missile warning mission. They are operated by USASMDC soldiers who monitor launch activity and other events observed by infrared sensor platforms and quickly provide information to members of the AMD and operational communities. The JTAGS forward stationing reduces the risk of solely relying on long-haul communications and ensures the resilience of USSPACECOM's comprehensive missile warning system.

Preparing Forces and Capabilities for the Future Fight

USASMDC's second major task is to develop future missile defense forces and mature current capabilities. The Space and Missile Defense Center of Excellence (SMD CoE) is the Army's force modernization proponent responsible for managing change to Army doctrine, organization, training, materiel, leadership and education, personnel,

facilities, and policy (DOTMLPF-P) requirements for space, strategic missile defense, and high-altitude capabilities. The SMD CoE trains and educates soldiers and leaders to be agile, adaptive, and ready; executes life cycle management for Army space operations officers; develops Army Space soldiers; and enables informed decision making.

To carry out its mission, the SMD CoE executes practices established by U.S. Army Training and Doctrine Command and Army Futures Command to meet force management and Army modernization enterprise responsibilities. These functions include performing concept development, capabilities determination, and capabilities integration relative to DOTMLPF-P for process change, integration, and transition for materiel development.

Specifically, in the training arena, SMD CoE conducts the Army's institutional soldier qualification training and education for space and GMD mission areas. The SMD School writes, coordinates, and publishes Army doctrine for space and GMD while also integrating space training and education in curriculum across all Army proponent schools, operational unit home stations, and pre-deployment training events. These efforts prepare soldiers across all warfighting functions to integrate Army and joint space and missile defense capabilities and effects in the conducting of multidomain operations.

Research and Development of Army Technologies

USASMDC's third major task is to provide critical technologies to address future needs that will enhance warfighter effectiveness. USASMDC's Technical Center supports joint warfighters by providing science, technology, and test and evaluation expertise to enable warfighter dominance both today and in the future. The Technical Center contributes to warfighter and joint force success in four major areas: directed energy (DE); tactical responsive space and high altitude; test and evaluation; and hypersonic and strategic weapons.

Directed Energy: The Technical Center, in coordination with the Army's Rapid Capabilities and Critical Technologies Office, is the Army lead for high-energy laser technology development. High-energy lasers complement kinetic systems in addressing threats from rocket, artillery, and mortars; small UASs; and cruise missiles. Additionally,

the Technical Center is exploring high-power microwave technology for use in interdicting a multitude of improvised threats. As systems are fielded, the Technical Center will continue developing new and improved DE technologies for insertion into weapon systems to maintain warfighter dominance.

Tactical Responsive Space and High Altitude: As the Army lead for space and high-altitude research, development, and engineering, the Technical Center identifies, develops, demonstrates, and integrates technologies in the areas of responsive space, space superiority, and high altitude. Working with other Army, DoD, and industry partners, the Technical Center focuses on persistent beyond line-of-sight communications for forces in remote areas; functionally effective resolution imagery; solutions for assured PNT; ground C2 systems; and direct downlink of data from space-based systems to deployed forces.

Test and Evaluation: As an invaluable part of the Army test and evaluation enterprise, the Technical Center supports developmental and operational AMD defense testing with a suite of low-cost ballistic missile targets, transportable and configurable launchers, and test execution and evaluation. These ballistic missile targets are critical to threat-representative, operationally realistic testing of high-priority Army systems such as Patriot, THAAD, and IBCS, with ongoing testing for the Lower Tier Air and Missile Defense Sensor (LTAMDS).

Hypersonic and Strategic Weapons: Since completing the Nation's first successful hypersonic weapon test in 2011, the Technical Center has continued supporting hypersonic testing for the Army, Navy, and Air Force, from test planning and design through mission execution and post-flight analysis. Additionally, the Technical Center continues to develop capabilities that enable rapid systems development and fielding through integration and interoperability testing, sensor and C2 design, flight test analysis, verification and validation, and warfighter training within an independent laboratory infrastructure.

Missile Defense Testing Assets and Range: The Technical Center also oversees the Ronald Reagan Ballistic Missile Test Site (RTS) at U.S. Army Garrison-Kwajalein Atoll, Republic of the Marshall Islands. The RTS is a vital national asset that provides live-fire developmental and operational flight testing of offensive and defensive missile,

hypersonic, and space systems; equatorial satellite launch capability; space object tracking and characterization; and atmospheric science research. This unique range and test facility, located 2,300 miles west-southwest of Hawaii, provides test support to MDA, NASA, the U.S. Air Force, and other agencies.

The RTS supports developmental and operational testing of both homeland and regional missile defense systems, as well as unarmed ICBM testing for the Air Force Global Strike Command, ensuring the safety, security, and reliability of the nation's nuclear deterrence forces. Hypersonic system testing has also become a significant element of near-term test planning at RTS. In concert with its testing mission and using a suite of the world's most sophisticated radar systems, including the U.S. Space Force's Space Fence, RTS also supports space object identification and space domain awareness missions in support of USSPACECOM. This mission includes space object tracking and characterization, providing critical orbital information on new foreign launches and high-resolution images in support of space situational awareness.

Army Contributions to the Nation's Missile Defense Capabilities

The DoD adopted new strategic guidance documents in 2022, with a new National Defense Strategy, Nuclear Posture Review, and Missile Defense Review, which elaborated on the President's National Security Strategy. To achieve an AMD force capable of supporting the Army of 2030, we must continue modernizing and developing AMD capabilities, building sufficient AMD capacity for multidomain operations, and ensuring AMD forces are trained and ready. We must also ensure that our capabilities and associated C2 systems are resilient and interoperable with joint and allied forces. Accomplishing these essential tasks will allow us to provide deterrence through deployments and forward stationing enabling a more robust, comprehensive defense by coordinating and integrating with our allies and partners.

Army AMD is undergoing its most significant modernization in the last four decades, as it is one of the Army's six modernization priorities receiving substantially increased investment. The AMD Cross Functional Team (CFT) supports Army modernization efforts and works closely with the other Services, Joint Staff, and MDA toward joint integrated AMD (IAMD) capabilities. The Program Executive Office Missiles and Space is the Army's materiel developer for these capabilities and works closely with

AMD CFT and U.S. Army Aviation and Missile Command. A summary of the Army's AMD strategic direction and major programs follows.

Air and Missile Defense Readiness: Multiple factors—including the enduring demand from CCDRs, the transition to great power competition and its associated complex threat set, and the overdue and critical need to modernize the Army's AMD force—have all converged to impact Army AMD force readiness. High operational demand of missile defense forces to support joint warfighters continues stressing Army AMD force readiness, modernization, and soldier welfare. Enduring high operational tempo and limited deployment predictability negatively impact soldier readiness and family well-being. Currently, twice as many ADA soldiers are dwell restricted as compared to the overall Army.

Our focus on the ADA force has seen positive results, specifically in the retention of our soldiers. In fiscal year (FY) 2022, 32nd Army Air and Missile Defense Command was the first overall in the division-size category in Headquarters, Department of the Army (HQDA) with a 109.7% overall retention mission rate. Currently in FY 2023, 32nd remains first within HQDA with over a 70% mission completion rate and the highest stabilization rate within U.S. Forces Command at 39%. What this tells us is, despite our high operational tempo, our ADA soldiers believe in the mission and are confident the Army, the ADA branch, and leaders are taking care of them and their families.

Mission Command: Closely linked to AMD readiness is the ability to provide low density, high demand AMD mission command elements. These elements are pivotal to laying the foundation for and creating an environment that supports integration of Army AMD forces into joint and combined Command and Control architectures. During the past few years, the Army has activated an additional active component ADA brigade headquarters in USINDOPACOM (38th ADA BDE at Sagami General Depot, Japan) and in the USEUCOM theater (52nd ADA BDE at Sembach, Germany). The Army has also rotated a National Guard ADA brigade headquarters to USEUCOM.

Integrated Air and Missile Defense Battle Command System: The IBCS program is a top Army AMD modernization priority that integrates current and future AMD sensors and weapons into a common integrated fire control capability, allowing warfighters to fully integrate AMD capabilities across all echelons. The IBCS is the

direct replacement for mission command nodes in the PATRIOT weapon system, headquarters elements, and air defense airspace management cells. IBCS also allows rapid convergence of sensors, shooters, and mission command components on an integrated fire control network. Once fully fielded, IBCS will provide a game-changing capability that allows appropriate tailoring and scaling of AMD forces to meet the given threat. The quantity and mix of capabilities can be dynamically retasked into a formation with an inherent, integrated mission command system to build tiered and layered defenses. The IBCS open architecture enables rapid integration of legacy and developmental sensors and shooters that provide capabilities to defeat emerging threats in multidomain operations. The program completed Initial Operational Test and Evaluation in the first quarter of FY 2023 and is progressing to a Full Rate Production Decision Review in March 2023 and Initial Operational Capability in April 2023.

The IBCS program will field common mission command nodes for Army AMD forces to defend against manned aircraft, UAS, air-to-ground missiles, tactical ballistic missiles, cruise missiles, and rockets, artillery, and mortar (RAM) attacks. Ultimately, IBCS will operate with air surveillance and fire control capabilities across the Army, Air Force, and Navy, and with joint and multinational AMD forces at all echelons, thereby enhancing AMD force lethality. By dismantling the current system-centric mission command paradigm, it will dramatically increase systems capability and facilitate open industry competition in support of the AMD community. The IBCS is one of the Army's contributions to the Joint All Domain Command and Control concept currently in development. Additional efforts are currently underway to support IBCS interoperability with MDA's Ballistic Missile Defense System, exploring the feasibility and potential benefits of integrating IBCS with MDA's Command and Control, Battle Management, and Communications (C2BMC) capability.

Terminal High Altitude Area Defense System: THAAD is a key component of the ballistic missile defense system-of-systems architecture and designed for area defense against short, medium, and intermediate range ballistic missiles. It is a mobile and globally transportable, low density, high demand asset that has a unique endo- and exoatmospheric intercept capability using proven hit-to-kill technology. There are currently seven operational THAAD batteries, two of which are forward-stationed in

Guam and the Republic of Korea in response to the North Korean nuclear and missile threat. Development efforts associated with U.S. Forces Korea Joint Emergent Operational Need improved Patriot and THAAD interoperability, as successfully demonstrated in a recent THAAD/Patriot MSE developmental and operational test where THAAD software used two MSE interceptors to engage a ballistic missile target. The Army, in conjunction with Office of the Secretary of Defense (OSD) and MDA, reassessed the THAAD requirement to eight batteries.

PATRIOT/PATRIOT Advanced Capability-3 (PAC-3) Missile Segment Enhancement (MSE): The Army PATRIOT force remains the cornerstone of AMD protection for our deployed forces and allies. The PAC-3 MSE is a high velocity, hit-to-kill, surface-to-air missile capable of intercepting and destroying tactical ballistic missiles and air-breathing threats. The PAC-3 MSE, a follow-on variant of the PAC-3, is in full-rate production and the latest generation hit-to-kill PAC-3 interceptor in the PATRIOT force to meet global capability requirements. The PAC-3 MSE fills the engagement gap between THAAD and PAC-3 missiles while also defeating advanced threats earlier, at greater range, and with increased lethality. The PAC-3 MSE's improved capability is achieved through a high-performance solid rocket motor, modified lethality enhancer, more responsive control surfaces, upgraded guidance software, and insensitive munitions improvements.

PATRIOT must continually modernize through software and hardware upgrades to address obsolescence and evolving threats, and best utilize extended battlespace performance afforded by the PAC-3 MSE interceptor. Modernization efforts provide combat identification enhancements, address upper-tier debris mitigation, improve PAC-3 MSE interceptor performance, and enable increased Army and joint interoperability. The Army leverages the program's stable funding profile to reduce price risk to the Government through firm fixed price contracting and value engineering initiatives. The Army mitigates obsolescence and counters emerging threats through the improvement of the hardware and software systems. In addition to the LTAMDS and IBCS integration efforts with PATRIOT, the Army supports the MDA-led integration of PAC-3 MSE interceptors and launchers into the THAAD weapon system. PAC-3 MSE integrated with THAAD, LTAMDS and IBCS expand the battlespace by leveraging the THAAD AN/TPY-

2 and PATRIOT radars together to detect threat targets at greater ranges. The Army is continuously improving PATRIOT while moving toward an IBCS architecture that enables kill-chain contributions from a wider spectrum of Army and joint sensors and weapon components to overmatch the near-term evolving threat.

Lower Tier Air and Missile Defense Sensor (LTAMDS): LTAMDS replaces the current PATRIOT radar and provides networked sensing capabilities in lower tier air and missile defense battlespace while enabling the full capability of the PAC-3 MSE interceptor. The LTAMDS significantly improves legacy PATRIOT radar capabilities by providing expanded range and 360-degree coverage combined with the benefits of a networked sensor on the Army IAMD integrated fire control network. LTAMDS technology will reduce current PATRIOT radar operations and sustainment costs by offsetting system equipment requirements and enhancing reliability and maintainability. The Army will begin testing LTAMDS prototypes with IBCS and the PATRIOT family of interceptors in the second quarter, FY 2023, with the objective of providing initial early operational capability to a PATRIOT battalion by the end of 2023 with follow-on testing in 2024.

Indirect Fire Protection Capability (IFPC) Increment (Inc) 2: The IFPC Inc 2 is a mobile, ground-based weapon system designed to defeat cruise missiles, Groups 2 and 3 unmanned aircraft systems, rockets, artillery, and mortars and other fixed-wing and rotary-wing threats. The Army's IFPC Inc 2 system will integrate with IBCS as its C2 and leverage the Sentinel sensor to enable multidomain operations -ready Army by 2030. The Iron Dome Defense System-Army (IDDS-A) is the interim cruise missile defense solution against the IFPC threat set until IFPC Inc 2 is available. The Army completed acceptance and fielding of two IDDS-A batteries in accordance with the Fiscal Year 2019 National Defense Authorization Act. The Army is on schedule to field and train two operational IDDS-A units in the second quarter, FY 2023.

IFPC Inc 2 will be an industry-built solution for a launcher platform and an all-up-round-magazine capable of firing the AIM 9X missile. The IFPC Inc 2 system features a modular open system architecture to integrate future kinetic effectors to defeat advanced threats. The Army is on track to execute developmental tests, system qualifications, and

operational assessments in FY 2023, as well as a system of systems operational assessment prior to transitioning to a Major Capability Acquisition pathway.

Army Long-Range Persistent Surveillance: The Army Long Range Persistent Surveillance (ALPS) passive sensor provides continuous, 360-degree, long range surveillance against fixed and rotary wing aircraft, UAS, and cruise missile threats. ALPS is integrated into joint and Army C2 systems, including IBCS and is deployed in support of operations in USEUCOM and INDOPACOM.

Counter-small Unmanned Aircraft Systems (C-sUAS): Technological advances and the proliferation of commercial and tactical UAS in both reconnaissance and attack capabilities have matured to the point where they present a significant threat to Army operations from both state and nonstate actors. The Secretary of Defense designated the Army as the executive agent for countering UAS threats and established the Joint Counter-Small UAS (C-sUAS) Office (JCO). Key JCO focus areas include developing joint requirements and materiel solutions, as well as joint training and doctrine. The Army deployed more than 500-man portable, fixed site, and mobile C-sUAS systems in response to a warfighter JUONS. The Army is continually improving equipment to mitigate ever-evolving threats. The Army is providing critical C-sUAS capabilities to Army operational divisions while also establishing C-sUAS protection of vital CONUS and OCONUS fixed and semi-fixed sites. The Army provided kinetic and non-kinetic C-sUAS capabilities in support of the Immediate Response Force in Europe to facilitate the detection, tracking, and the defeat of sUAS threats.

Maneuver-Short Range Air Defense (M-SHORAD): M-SHORAD provides maneuver forces a dedicated, Stryker-based air defense kinetic capability against fixed-wing, rotary-wing, and UAS threats. In FY 2018, the Army approved the development of kinetic energy M-SHORAD systems that integrate existing Army capabilities into Stryker combat vehicles. The program successfully delivered four prototype systems with residual combat capability to an Air Defense Artillery Regiment in April 2021. The Army will deliver four M-SHORAD battalions by FY 2026. The Army is maturing high energy laser and electronic warfare technologies to increase M-SHORAD capabilities in support of the maneuver force. Ultimately, the Army envisions M-SHORAD battalions will contain a mix of complementary direct energy and kinetic intercept systems to protect

the maneuver force. The Army is initiating an acquisition program in FY 2023 to develop a Next Generation Short Range Interceptor (NGSRI) to replace the aging Stinger missile. The NGSRI capability will provide increased lethality, range, and target acquisition, and is expected to be available to the warfighter in FY 2028.

Joint Functional Component Command for Integrated Missile Defense—Integrating and Synchronizing Trans-regional Missile Defense

The Joint Functional Component Command for Integrated Missile Defense (JFCC IMD) is USSTRATCOM's integrating element for trans-regional missile defense. USSTRATCOM formed JFCC IMD to execute its UCP-assigned trans-regional missile defense responsibilities as the "deny benefit" contribution to its overall strategic deterrence strategy. Established in 2005 and headquartered at Schriever Space Force Base, Colorado Springs, Colorado, JFCC IMD is manned by a cohesive team of subject matter experts from the Army, Navy, Air Force, Space Force, and Marine Corps, as well as government civilian and contractor personnel.

JFCC IMD is the recognized subject matter expert across the joint missile defense enterprise in matters of trans-regional missile defense operational support, policy, plans, intelligence, communications, training and education, and operational risk assessment. The command's principal mission is to integrate these trans-regional missile defense functions across the joint and combined warfighting force. In coordination with of the Joint Staff, and on behalf of USSTRATCOM and other CCDRs, JFCC IMD champions warfighter priorities and operational needs. These include continued development of robust terrestrial and space-based missile defense sensors, integrated discrimination capabilities, redundant and resilient BMC3I networks with enhanced cybersecurity defenses, and improved means of intercepting or negating all missile and hybrid threats.

The JFCC IMD works across DoD and alongside allies and key partners to improve integration of existing capabilities, maximizing efficiency and effectiveness in trans-regional missile defense missions. Integration is the essential force multiplier—a critically important mission enabler that JFCC IMD directly supports. As a functional component command of USSTRATCOM, JFCC IMD supports designated UCP responsibilities along four lines of effort:

- Conducting global missile defense planning and security cooperation activities.
- Conducting trans-regional missile defense operations support, cyber operations/security, and provide Intelligence Community-coordinated intelligence.
- Executing joint and combined global missile defense training and education.
- Assessing warfighter missile defense needs in support of capability development, testing, and fielding.

To accomplish these efforts, JFCC IMD maintains close collaborative relationships with CCDRs, the MDA, the OSD staff, the Joint Staff, Services, the Intelligence Community, and our allies and partners. JFCC IMD continually seeks to enhance deployed forces' missile defense capabilities while increasing operational effectiveness and confidence in our collective ability to defend the Nation, deployed forces, allies, and partners. Some key efforts to enhance missile defense planning and capabilities for homeland and regional architectures follow.

Policy and Planning Support: JFCC IMD worked closely with the Joint Staff and the Combatant Commands in developing modifications to strategic guidance and operational planning documents to posture the Joint Force in planning and assessing trans-regional missile defense operations to include Global Campaign Planning and Geographic Combatant Commander specific plans. Additionally, JFCC IMD methodically examined the mission's roles, responsibilities, and authorities in an enterprise-wide Joint Staff effort ensuring the best alignment of responsibilities across the joint force to ensure effective warfighter support. JFCC IMD also provided OSD with policy support as the Missile Defense subject matter experts supporting the Department's development of strategic guidance documents and security and defense strategies addressing the integrative challenges in this important mission space.

Allied and Partner Missile Defense Integration: Given that we will never have enough active defense capacity, integrating our allies and partners into a common and mutually supportive architecture is a critical warfighter priority. The continued integration of space and missile defense will see greater opportunities for allies and partners to contribute to both missions. We must evolve beyond existing cooperation mechanisms

with allies and partners to an environment of mutual trust and information sharing that empowers truly integrated planning and operations enabled by combined force development, simulation, and execution. Future conflicts will not be fought alone, and our greatest strategic advantage is the power of our alliances and partnerships. We should not hamstring this historic advantage with continued information-sharing policies and practices that preclude operational planning and hinder collective action.

The Nimble Titan Campaign of Experimentation, a biennial series of multinational missile defense experiments, is one venue to promote this increased cooperation. This event brings together subject matter experts from allied and partner nations to explore the national policy and military interfaces and dynamics involved in collaborative coalition and alliance missile defense planning. Meeting this intent is necessary for developing regional defense designs, C2 relationships, and collective, bilateral, and multilateral policy. Nimble Titan fosters greater confidence in combined missile defenses and provides a means to advance U.S. efforts in collaboration, interoperability, and operational integration with our allies and partners.

Expansion and Integration of the Trans-regional Missile Defense Architecture: In response to the evolving strategic environment, JFCC IMD continues to bolster trans-regional, homeland, and regional missile defense capabilities through advancement of new capabilities. These advancements include the Defense of Guam, Aegis Ashore site in Poland; continued development of the Standard Missile-3 Block IIA; the Long-Range Discrimination Radar; Space-based Kill Assessment; MDA's Hypersonic and Ballistic Tracking Space Sensor, the MD and Missile Warning elements of SDA's Proliferated Warfighter Space Architecture; the Next Generation Interceptor for homeland defense; and the Glide Phase Interceptor for regional hypersonic defense. Given the challenges associated with integrating these capabilities into a global architecture, JFCC IMD, in support of USSTRATCOM, provides essential collaboration with CCDRs to assess and address gaps in planning, policy, capabilities development, and operations.

Warfighter Inputs to Capability Development: The JFCC IMD is making every effort to help streamline and accelerate MDA's efforts to provide warfighters integrated kill chain capabilities (sense, C2, and effect) as quickly as possible to meet increased threat developments. As multiple reviews have identified, the Nation must have

requirement, acquisition, and fiscal processes and cultures that enable MDA, Defense Agencies, and the Services to quickly develop, test, and deliver effective, reliable, and sustainable missile defense capabilities. We must do more to improve these processes and cultures from the top down to the lowest levels. Our adversaries are not waiting, so we must change our typical ways with innovation, adaptability, risk acceptance, and speed. The JFCC IMD collaborates with CCDRs, MDA, and the Services, as well as their respective test agencies, to leverage emerging technologies to enhance existing systems, explore innovative operational concepts, and prioritize maturing technological advancements with the most promising near-term potential. To that end, JFCC IMD continues to optimize the collaboration inherent in the warfighter involvement process as an operational proponent for required missile defense capabilities and performance enhancements.

Sustaining our competitive advantage through innovation and expedience depends on well-resourced and operationally relevant test campaigns, high fidelity modeling and simulation infrastructure and forward looking wargaming to challenge assumptions regarding our future missile defense readiness and posture. In testing over the past year, JFCC IMD supported an Aegis organic engagement of a Medium Range Ballistic Missile (MRBM) using a Standard Missile-3 (SM-3) Block IIA missile; a U.S. 3rd Fleet interoperability and live-fire exercise with allied Navies; several data collections of hypersonic vehicle flight tests to characterize sensor performance; and initial testing to demonstrate the Long-Range Discrimination Radar's capabilities.

Joint Integrated Air & Missile Defense Training and Education: The Joint Ballistic Missile Defense Training and Education Center of Excellence (JBTEC), in coordination with USSTRATCOM, the Joint Staff, Services, and CCMDs, continue developing and delivering comprehensive and innovative joint training programs to close gaps between Service, joint, and regional air and missile defense training and education. The JBTEC, as DoD's only Joint Center of Excellence and the joint training center for IAMD, offers 18 mission-focused resident, online, and mobile training team joint-certified courses, including orientation, staff and planning, all domain operations, asset management, C2BMC situational awareness, and general and flag officer executive seminar training. In 2022, JBTEC instructors executed 222 courses that trained more than 3,500 students

worldwide. These courses supported ranks from E-1 through O-10/SES encompassing almost every DoD agency. Meeting strategic and theater security cooperation plans, JBTEC also provided training to 27 allied and partner nations through both military-to-military and foreign military sales training venues increasing warfighter readiness. In 2022, the Chairman, Joint Chiefs of Staff; Commander, U.S. Strategic Command and Commander, U.S. Space Command identified Joint Missile Warning as an area where warfighters needed training. Based on the success of joint IAMD training, USSPACECOM designated and funded JFCC IMD's JBTEC to rapidly develop and field validated Joint Missile Warning training.

Integrated Trans-regional Missile Defense Asset Management: The JFCC IMD, in coordination with USSTRATCOM and the CCDRs, manages trans-regional missile defense operational readiness posture, coordinates trans-regional missile defense system maintenance, and supports MDA and Service tests. The asset management process allows JFCC IMD to continually assess system readiness to defend against missile attacks and recommend adjustments to optimize overall missile defense architecture.

Cybersecurity of the Missile Defense System: JFCC IMD, in coordination with USSTRATCOM and MDA, serves as the cybersecurity service provider for missile defense architecture to ensure cyber defenses and operations are planned and executed across the globe. Working with key stakeholders, JFCC IMD enhances the cyber defense posture of the missile defense operational architecture against malicious activity. The JFCC IMD also collaborates with mission partners to incorporate realistic cybersecurity testing to support the warfighter capability acceptance process. Additionally, JFCC IMD works closely with the Joint Staff, CCMDs, and MDA to educate, train, and exercise cybersecurity protocols to ensure the highest levels of global missile defense readiness.

Comprehensive Missile Defeat: As I have highlighted above, adversary offensive missile and hybrid systems are increasingly complex and challenging in their delivery means, range, maneuverability, and lethality. As such, an optimal missile defeat approach requires the ability to counter the use of adversary missiles and their development, acquisition, and proliferation. The Department's contribution to this

approach must integrate offensive and defensive capabilities to defeat trans-regional missile defense threats across the full spectrum of conflict. By developing and sustaining these capabilities, we lower overall costs and reduce the risk of failure.

Importantly, as we continue developing innovative capabilities to empower this effort, we must implement these actions as part of an integrated deterrence framework using all instruments of national power. These actions include diplomacy at the forefront and advancing cross-domain deterrence with the capabilities and actions of allies and partners to ensure the costs and risks of adversary aggression remain disproportionate to any conceivable benefit. Within the Department, these capabilities must include conventional kinetic attack operations, directed energy and electromagnetic attack, cyber, and special operations activities. Each capability provides opportunities to reduce the eventual burden on prohibitively expensive hit-to-kill active defenses. However, none of these alone is a “silver bullet” against the threat. Our future material solutions should consist of a mutually supportive portfolio of capabilities with the associated integrated development, testing, and fielding within the joint force. To this end, we must understand how these systems complements one another and, more importantly, have the appropriate planning and execution authorities and BMC3I systems in place to maximize their effect.

In summary, JFCC IMD continues to expand our Nation’s trans-regional missile defense architecture and explore developing capabilities across all domains to maintain an operational advantage against current and future threats. We maintain our competitive edge through integrated planning and operational support, the development of warfighters through education and training, the expansion of collective capabilities in collaboration with our allies and partners, and the rapid delivery of innovative and impactful capabilities to warfighters to enhance our national security.

Conclusion

Chairman King and Ranking Member Fischer, as members of the joint missile defense community, the Army continues pursuing enhancements to the Nation’s IAMD systems, from tactical to strategic levels of warfare. As outlined here, USASMDC and JFCC IMD perform a broad set of critical national security missions. These missions include providing professional warfighters and capabilities to support current operations,

ensuring they are prepared for tomorrow's fight, and developing the new technologies required to achieve and maintain a technological advantage against our adversaries. Our trained and ready soldiers, operating GMD elements in Colorado, Alaska, New York, and California, and from remote, globally deployed locations, remain prepared to defend the homeland against ICBM attack. As a force provider to CCDRs, we provide essential regional sensor capabilities, ballistic missile early warning, and space-enabled communications. Our regional forces continue to leverage allied collaboration and planning efforts in developing integrated and interoperable defenses against various threat sets. USSTRATCOM, through JFCC IMD, continues to integrate missile defense capabilities to counter global missile threats and protect our Nation, deployed forces, and allies and partners.

While operational, doctrinal, and materiel developments are essential, our most important assets are the thousands of Soldiers, Sailors, Airmen, Marines, Guardians, civilians, and contractors who deploy and employ our IAMD systems. As recognized by Department leadership, the strength behind our outstanding workforce is their families. Their contributions and sacrifices are foundational to the dedication and performance of our workforce—the role and support of our families empowers mission accomplishment.