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UNITED STATES SPACE COMMAND

PRESENTATION TO THE SUBCOMMITTEE ON STRATEGIC FORCES  
HOUSE ARMED SERVICES COMMITTEE  
U.S. HOUSE OF REPRESENTATIVES

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**Introduction**

After a lengthy examination by the Joint Staff and Combatant Commands (CCMDs), the April 2023 Unified Command Plan (UCP) tasked United States Space Command (USSPACECOM) with responsibility for Trans-Regional Missile Defense planning and operational support. The decision was the culmination of a comprehensive study of the roles, responsibilities, and authorities associated with the missile defense enterprise, and represented an alignment with the 2022 Missile Defense Review (MDR). Commander, USSPACECOM received this responsibility with the expectation USSPACECOM would benefit from synergies with our other Unified Command Plan (UCP) responsibilities, as the sensor and command and control (C2) elements of regional and Trans-Regional Missile Defense become increasingly space-based and space-reliant.

One example of those synergies is the alignment of Trans-Regional Missile Defense with USSPACECOM's existing role as the Global Sensor Manager, which is closely linked to broader operational efforts in space domain awareness, missile warning, and missile defense of the United States and our Allies. Incorporating the Trans-Regional Missile Defense responsibility, USSPACECOM will maximize the employment of multi-role sensors, terrestrial, and on-orbit. These sensors contribute to our understanding and awareness of threats in space, while also supporting the missile warning and missile defense missions. Trans-Regional Missile Defense plays a critical role in deterrence by denial, which aids in achieving the National Defense Strategy's priorities of defending the homeland, deterring strategic attack, and deterring aggression.

## **Environment**

Our strategic competitors are evolving, diversifying, and proliferating their inventories of advanced missiles and technologies, which could threaten the U.S. homeland and our interests around the globe. Hypersonic glide vehicles and cruise missiles pose diverse threats which complicate targeting, tracking, and impact determination.

The People's Republic of China (PRC) is our pacing challenge and is expanding its missile capabilities with an emphasis on hypersonic systems and maneuverable reentry vehicles. The PRC's continuing investment in advanced weapons technologies will likely only expand their already diverse strike capabilities over the coming decades.

Russia continues to pursue upgrades to its nuclear ballistic and cruise missile arsenals. These upgrades present a significant strategic threat designed to stress our sensors and defensive postures. Throughout two years of combat operations against Ukraine, Russia has demonstrated the capability to sustain a limited combined fires campaign over an extended period despite sanctions, while also incorporating novel strike weapons received from nations sympathetic to its cause.

The Democratic People's Republic of Korea (DPRK) and Iran continue to expand their offensive strategic capabilities, developing hypersonic, ballistic, and cruise missiles that threaten our deployed forces, our Allies and partners, and in the case of DPRK long-range ballistic missiles, the U.S. homeland.

Lastly, the rise of affordable strike options using low-cost one-way-attack unmanned aerial vehicles (UAVs) and off-the-shelf UAV technology potentially allows any actor to asymmetrically threaten our critical missile defense systems and architecture, both in peacetime and throughout the course of any future conflict. Given these threats, we are entering a new era,

in which the U.S. and its Allies may be forced to defend against complex attacks combining high- and low-end technologies to lethal effect like never before.

### **USSPACECOM's Role in Trans-Regional Missile Defense**

Our strategic competitors' offensive missile capabilities have accelerated. Today, multiple strategic competitors are capable of overwhelming our conventional missile defenses. They will also increasingly challenge our ability to execute operations and protect and defend U.S. and Allies' vital interests.

Given the global reach of potential adversaries' capabilities and the supra-global nature of our space-based and terrestrial sensor architecture, USSPACECOM's responsibility for Trans-Regional Missile Defense planning and operations support and Global Sensor Management demands that we posture the sensor element of the missile defense architecture to counter the evolving threat. With receipt of the Trans-Regional Missile Defense planning and operations support responsibility, USSPACECOM also gained the Joint Functional Component Command for Integrated Missile Defense (JFCC IMD) from United States Strategic Command (USSTRATCOM). Throughout the transition, JFCC IMD ensured the continued execution of these responsibilities without any degradation to the mission. USSPACECOM has integrated JFCC IMD into our command structures and processes and we are exploring ways to further optimize the execution of this important mission.

### **USSPACECOM's Role as Global Sensor Manager**

As the Global Sensor Manager, USSPACECOM is responsible for planning, managing, and overseeing the operations of all assigned space domain awareness, missile defense, and missile warning sensors. The data the sensors provide is crucial to Department of Defense and national leader decision superiority. As the Global Sensor Manager, USSPACECOM is tasked

with coordinating with all CCMDs, Federal departments and agencies, and our Allies and international partners to integrate the fullest range of sensors capable of contributing to space domain awareness. Integrating these systems across CCMDs provides persistent awareness of both terrestrial and space-based threats, 24 hours a day, 365 days a year.

### **USSPACECOM's Technical Sensor Contributions**

USSPACECOM's assigned sensors are a critical enabler to all CCMDs and national-level military command centers. Most assigned sensors perform missile warning, missile defense, and space domain awareness missions simultaneously. Many purpose-built, missile defense sensors are also capable of contributing to USSPACECOM's space domain awareness mission. For example, in partnership with other CCMDs, the Space Development Agency (SDA), and the Missile Defense Agency (MDA), USSPACECOM demonstrated how, without requiring tactical control, regional missile defense sensors can be used for more than one function to maximize their technical potential. Traditional missile defense sensors are capable of augmenting missile warning sensor coverage and have proven their value in detecting and tracking space threats exiting the atmosphere, transiting, and reentering from the space domain.

USSPACECOM sensors, like the Space-Based Infrared System (SBIRS) and Defense Support Program satellites, provide the first alert of a missile launch from anywhere on the planet to national leaders, CCMDs, the National Military Command System, and select international partners. This initial alert tips and cues USSPACECOM and other CCMD sensors through theater and homeland defense communications architectures connecting USSPACECOM's space-based warning segment to terrestrial warning and defense sensors for theater and homeland missile defense. Near term proliferation of these architectures and capabilities by the Department is critical to the Command's future approach. In conflict,

proliferation adds resilience to essential capabilities. In competition, resilience imposes costs on our strategic competitors' attack strategies and is critical to integrated deterrence. Resilience is essential but will not alone deter attacks or assure protection for our space assets. For USSPACECOM to protect and defend U.S. and as directed, Allied, Partner, and commercial space assets, the Command requires Congress' continued investment in joint military space capabilities, resilient architectures, and protection efforts.

USSPACECOM is working with other CCMDs and agencies to integrate and optimize multi-mission sensors across all our assigned mission areas. AN/TPY-2, Sea-Based X-Band Radar, and Aegis Combat Systems can each contribute to our collective understanding of events and activities in the space domain in both exercise and real-world operations. In coordination with other CCMDs and interagency partners, the Command is aggressively testing technical solutions that enhance both the supported CCMDs' regional missile defense missions and USSPACECOM's space domain awareness mission. Additional fusion of other intelligence disciplines through close cooperation with the Intelligence Community helps further improve the Command's vital multi-mission support.

USSPACECOM is working to leverage commercial space partnerships as part of the Command's Global Sensor Management role for multi-mission support. American commercial innovation is a competitive advantage our competitors do not enjoy, and our commercial partners are providing unprecedented capability in support of our response to the ongoing Russian war on Ukraine. USSPACECOM has published a Commercial Integration Strategy to enhance collaboration, integration, and partnership with U.S. commercial industry. This strategy establishes priorities and synchronizes commercial integration efforts so that USSPACECOM can mitigate capability gaps and improve space architecture resiliency.

### **Coordination with Other CCMDs and Agencies**

USSPACECOM has partnered with United States Northern Command (USNORTHCOM), USSTRATCOM, and other agencies to provide exquisite Global Sensor Management capabilities. In the past year, this team collectively removed barriers in support of our nation's collective warning and defense interests. Our integration with USNORTHCOM on missile warning and missile defense helps provide sensor coverage for the homeland defense mission. In addition to our CCMD support, the Global Sensor Management role continues to expand our relationships and integration with Allied nations and organizations such as NATO.

Beyond our daily coordination in response to real-world operational demands, USSPACECOM regularly participates in advanced, coalition-integrated regional and global exercises and war-games to build and test our sensor management processes. Exercises like GLOBAL LIGHTNING, GLOBAL THUNDER, and AUSTERE CHALLENGE, and our first ever USSPACECOM-led Tier 1 Joint Force exercise, APOLLO GRIFFIN, provide opportunities to employ our sensors and sensor management capabilities. We use these exercises to train the Joint Force to operate in this complex environment, while also preparing Allies, and partners to better leverage the Global Sensor Management capabilities we provide. USSPACECOM will continue to demonstrate our sensor management and other operational concepts by conducting mission-centric exercises to prepare the command for APOLLO GRIFFIN and to refine our support to United States Indo-Pacific Command and United States European Command during their Tier 1 exercises.

### **Today's Trans-Regional Missile Defense Sensor Architecture and Future Capabilities**

Combining Global Sensor Manager responsibilities with Trans-Regional Missile Defense and missile warning helps USSPACECOM advocate for integrated and efficient solutions that

modernize and recapitalize our aging sensor architecture. We face the continuing challenge of keeping pace with evolving threats and technologies while ensuring our sensor architecture remains optimized and modernized with key technical software and hardware upgrades. Sustaining and upgrading 20th century sensors that are increasingly obsolete and hard to maintain remains a challenge. The existing, limited portfolios of aging terrestrial and space-based sensors requires USSPACECOM to pursue the fielding of new capabilities while still leveraging and integrating legacy sensors in support of critical warning and active defense functions today. While we need to expand and improve our terrestrial capabilities, the optimal solution requires investment and leveraging of our advantages with a space-based sensor layer integrated with ground-based sensors to defeat advanced and evolving threats.

Continued funding for research and development efforts, such as next-generation, space-based and terrestrial sensor systems, is key to keeping pace with evolving competitors across all domains. These capabilities must be resilient, and we must be able to defend and reconstitute them to achieve space and cross-domain mission assurance for the Joint Force. On-orbit systems provide valuable solutions for layered tracking and discrimination capability for terrestrial threats, while terrestrial systems provide valuable solutions for tracking and characterizing activities in space. A proliferated space tracking and characterization constellation combined with next-generation, overhead persistent infrared systems would provide significant improvements necessary to detect, maintain custody of, and target emerging advanced threats. USSPACECOM is working with the SDA and United States Space Force to inform operational needs for future space-based missile warning, missile tracking, and C2 systems. These requirements include the ability to tip and cue sensors across multiple orbits, which will provide



global, pole-to-pole detection and tracking capabilities. These space-based layers must be able to detect, track, characterize, and target hypersonic and ballistic missile threats.

Whether future systems exist in space, air, land, or sea, they must possess multiple mission area capabilities and be integrated into the joint all-domain architecture. Space-based and terrestrial sensor architectures must be capable of supporting space domain awareness, missile defense, and missile warning missions simultaneously. Their disparate data must be fusible, displayable, and timely to allow decision makers to act on the best available information. To test these emerging capabilities, USSPACECOM continues to use policy-focused wargames like NIMBLE TITAN and Operator-in-the-Loop wargames, like NIMBLE FIRE, to test developmental concepts, evaluate advanced threats, and assess Joint doctrine. Only through achieving and maintaining decision superiority can we expect to sustain our edge throughout the spectrum of competition.

USSPACECOM strongly endorses continuing work on systems like MDA's Long-Range Discrimination Radar and spiral improvements to Command and Control, Battle Management and Communications (C2BMC); SDA's Low Earth Orbit-based Proliferated Warfighter Space Architecture providing Wide Field of View Infrared tracking, low-latency Combined Joint All-Domain Command and Control; and Space Systems Command's Medium Earth Orbit-based Medium-Field of View Infrared tracking. We are also preparing to integrate Space Surveillance Network sensors into C2BMC that will greatly enhance our multi-mission battlespace awareness. C2BMC provides USSPACECOM greater flexibility as the Global Sensor Manager and is critical to integrating the missile warning, missile defense, and space domain awareness missions.

### **Supporting the Transition to Comprehensive Missile Defeat**

While advances in sensor capability will enhance the lethality of our forthcoming effector systems, these advances are insufficient to overcome the advancing adversary threat. The 2022 MDR states, “It is a strategic imperative for the U.S. to continue investments and innovation in the development of full spectrum missile defeat capabilities to maintain deterrence and offer protection, while hedging against uncertainty.” As the Department fulfills this charge to explore and enact the full range of capabilities to counter advanced adversary offensive missile and hybrid threats across the spectrum of conflict, USSPACECOM, with fellow CCMDs, Services, Allies, and Interagency and Commercial partners stands ready to leverage our advantages in the space domain to regain and expand our competitive advantage.

## **Conclusion**

USSPACECOM’s nearly 18,000 joint military and civilian professionals work every day to provide unmatched execution of our Trans-Regional Missile Defense, missile warning, Global Sensor Manager, and other responsibilities through the innovative employment of our existing sensors. Moving forward, the development and incorporation of multi-use or expanded sensors will increase the resiliency of this critical network. We are working with MDA and the Services to bring this to fruition. We appreciate Congress’ support as we further integrate and optimize our assigned responsibilities to enable the Command’s foundational moral responsibility to ensure the delivery of space capabilities to the Joint Force, the Nation, and our Allies, while providing additional capability to protect the homeland, the Joint Force, and our Allies from advanced missile threats.