

DEPARTMENT OF THE AIR FORCE  
PRESENTATION TO THE  
SUBCOMMITTEE ON STRATEGIC FORCES  
UNITED STATES SENATE

SUBJECT: Fiscal Year 2022 Priorities and Posture of the U.S. Space Force

STATEMENT OF: General David D. Thompson, Vice Chief of Space Operations  
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26 May 2021

## INTRODUCTION

Chairman King, Ranking Member Fischer, and distinguished members of the Committee. Thank you for the opportunity for us to testify today. On behalf of the Acting Secretary of the Air Force, the Honorable John P. Roth and the Chief of Space Operations, General John W. “Jay” Raymond, it is a pleasure to appear before you today to provide details regarding the newest U.S. Armed Service. In our capacities as Vice Chief of Space Operations, U.S. Space Force, and Acting Assistant Secretary of the Air Force for Acquisition, Technology, and Logistics we will testify on current and future establishment activities and provide an update on space acquisition. Please note that our comments regarding Fiscal Year 2022 plans are circumspect due to the ongoing work with respect to the President’s budget.

The United States is a space-faring nation. We have long understood that our nation is strongest economically, militarily, and diplomatically when we have access to, and freedom of action in space. Unfortunately, potential adversaries have taken note of the enormous civil, commercial, and national security benefits the United States and other nations are now deriving from the use of outer space, and they are developing capabilities aimed at denying that access and freedom of action in conflict. We have long since acknowledged we can no longer take this vital national interest for granted; **it must be secured.** The rapid advancements of potential adversaries’ capabilities to threaten the use of space for the United States, as well as our allies and partners, must be countered with immediate improvements to our space systems, architectures, and defense capabilities.

The Space Force was established to organize, train, and equip space forces to preserve freedom of action, enable Joint lethality and effectiveness, and provide independent options to U.S. national leadership, allies, and the Joint Force capable of achieving national objectives. Our responsibilities include developing Guardians, acquiring military space systems, maturing the military doctrine for space power, and organizing space forces to present to our combatant commands (CCMDS) to ensure they can meet their objectives. U.S. space capabilities, coupled with international partnerships, have become a cornerstone of deterrence, not just in space, but in every domain. Without freedom to maneuver in space, our deployed forces, our homeland, and our allies across the globe are at greater risk. As Secretary of Defense Austin and Chief Raymond have stated:

In space, for example, integrated deterrence would mean ensuring that capabilities such as our satellite-based Global Positioning System can continue even if adversaries attack it with missiles, cyber tools or space-based weapons.<sup>1</sup>

Wargames have shown in any great power conflict, our alliances and partnerships are an essential factor to achieve success. **We will enable and defend our allies as they in turn provide capabilities that complement our own.**<sup>2</sup>

The Department of Defense (DoD) is currently undergoing the largest shift to its organization in generations with the standup of the Space Force and the ways we are accelerating and improving space acquisitions. Ensuring delivery of the space systems warfighters need at the speed of relevance is vital. To continue to outpace our adversaries, a new level of partnership between Congress, the Executive Branch, and the private sector is required to maintain the strategic advantages our space capabilities afford.

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<sup>1</sup> Lloyd J. Austin III, (GEN, USA, Ret.), U.S. Secretary of Defense, “The Pentagon must prepare for a much bigger theater of war,” Washington Post, 5 May 2021.

<sup>2</sup> John W. “Jay” Raymond, (Gen, USSF), Chief of Space Operations, “Chief of Space Operations Planning Guidance,” November 2020.

## SPACE THREAT ENVIRONMENT

The modern world is increasingly reliant on services provided by or through satellites, fueling a strategic competition for influence in the space domain that is only becoming fiercer. Both China and Russia are deeply engaged in this competition, aggressively and successfully pursuing newer, better, and more numerous space assets and counterspace weapons that demonstrate technological leadership, expand their share of the global space marketplace, and prepare them to negate U.S. space capabilities when called upon in war. China famously demonstrated the counterspace threat when it destroyed a weather satellite in 2007. Today China operates antisatellite missiles, lasers, and jammers, as well as a satellite in geostationary Earth orbit fitted with a grappling arm. Meanwhile, Russia has deployed lasers and jammers of its own, and beginning in 2019, has tested two antisatellite missiles, used a military “inspector” satellite to shadow U.S. platforms, and fired a projectile from the same “inspector” satellite, one of seven counterspace prototypes Russia has in low Earth orbit. Any one of these Chinese or Russian threats is potentially crippling if not accounted for, but the single greatest challenge lies in the need to counter all of them at once.

## STATUS OF THE STANDUP OF THE U.S. SPACE FORCE

General Raymond’s direction to build a lean, agile, and mission-focused force has been at the forefront of our planning. The design of our Space Force headquarters – the Space Staff – and Field Command structure aligns complementary functions and streamlines echelons of command in the deliberate pursuit of speed and agility. The **Space Staff** was rapidly established beginning with the establishment in law of the Space Force on 20 December 2019. Our smaller, more empowered force is reflected in a streamlined headquarters structure and has been designed to merge functions under four new offices (Chief Human Capital Office, Chief Operations Office, Chief Strategy and Resources Office, and Chief Technology and Innovation Office). The Space Staff will remain lean, agile, and mission-focused – planned to reach no greater than 600 billets, which is significantly smaller than the headquarters staffs of our Sister Services. We are able to stay lean by leveraging the support infrastructure and expertise of the Air Staff (e.g., Surgeon General, Judge Advocate, General Counsel, and Legislative Liaison), who remains a great partner in this endeavor.

Our first field command, **Space Operations Command**, stood up in October 2020 as the primary space force provider to CCMDS. We will establish the remaining two field commands before the end of 2021: **Space Systems Command** (SSC) will develop, acquire, and field operationally relevant space capabilities in resilient and defendable architectures, and **Space Training and Readiness Command** (STARCOM) will develop tactics, a testing enterprise, doctrine, and advanced operational training using a dedicated cadre of warfighting professionals. SSC and STARCOM will be established after nominated Space Force officers are appointed by the President and confirmed by the U.S. Senate to lead these two commands.

We have initiated planning for a **National Space Intelligence Center** to provide foundational scientific and technical intelligence, as well as operational space intelligence, to the Service, CCMDS, and the Intelligence Community (IC). The **Space Warfighting Analysis Center**, currently aligned under the Space Operations Command, is leading analysis, modeling, wargaming, and experimentation to generate new operational concepts and force design options for the Space Force, and has taken on the role of integrating these activities across the DoD and with the IC, as well.

## TOWARDS SPACE ACQUISITION OPERATING AT PACE

### Approach

We face distinct challenges in the acquisition of our space systems due to technical complexity, low quantities purchased over long periods of time, and a unique operating environment. To build upon the successes and lessons learned from our current acquisition system, we need to streamline requirements validation; accelerate decision and contracting speed; maximize budget stability, flexibility, and efficiency; and increase program execution efficiency.

The DoD is taking a proactive approach to acquisition to reduce bureaucracy to more quickly deliver technologies and systems to the warfighter and has made many important changes to improve space acquisition, including fully embracing the authorities Congress has provided. The Department is working to implement these reforms and to measure their impacts. With the standup of the Space Systems Command and its close partnership with the Space Rapid Capability Office and National Reconnaissance Office, foundational elements are being laid for a flatter, more agile acquisition organization.

Following congressional direction in the Fiscal Year 2020 National Defense Authorization Act (NDAA), **the Space Force continues to work with Department of the Air Force (DAF) leadership on its relationship to the Assistant Secretary of the Air Force for Space Acquisition and Integration.** This includes the statutory responsibility of this position to assume Service Acquisition Executive responsibilities on 1 October 2022. Collaboration between the Department, the Space Force, and the Joint Requirements Oversight Council to utilize the flexibility of the Joint Capabilities Integration and Development System to focus on rapid validation for capabilities will continue to be an integral part of the acquisitions architecture. Furthermore, DAF will continue to leverage DoD's Adaptive Acquisition Framework.

One important area where we have seen tremendous progress in delivering swift and responsive capabilities to the warfighter is the use of Middle Tier of Acquisition (MTA) authorities to make targeted progress in a variety of key programs. MTA authorities allow us to rapidly identify, prototype, and field innovative materiel solutions for some of our most pressing operational challenges. Our approach to using these authorities is "speed with discipline." While **we are cutting bureaucracy**, there is deliberate effort to ensure **we build rigor into each program**.

Using MTA authorities, we are rapidly prototyping solutions to deliver the first resilient geosynchronous satellite for the Next-Generation Overhead Persistent Infrared satellite system to meet the warfighter's 2025 need date. Delivering this missile warning system is essential to the future force. These MTA authorities allowed the program to start quickly with a laser-focus on a set of well-understood requirements. These rapid prototyping authorities will potentially enable delivery of the satellite three and a half years faster than its predecessor.

There are many programs with innovative prototyping efforts across the National Security Space enterprise. The Electro-Optical/Infrared Weather System (EWS) prototype is one such example, and a model for future efforts. All three competing prototype vendors completed their Initial Design Reviews within ten months, and all three are scheduled to have their Final Design Reviews within eighteen months. EWS prototyping is a pathfinder for creating resiliency and savings for smaller sensors in proliferated low Earth orbit architectures, as the use of prototyping has opened up solutions that would have taken years longer to achieve, while maintaining transparency.

The Department is doing more than just harnessing prototyping to bring programs online more quickly and affordably. We are also increasing flexibility through non-traditional program approaches. DAF has a pathfinder program to pilot a revolutionary way of bringing budgetary flexibility to deliver software capabilities in an agile approach, which outpaces the adversary's delivery cycle. The Space Command and Control (Space C2) program utilizes this special authority, called Research, Development, Test, and Evaluation Budget Activity-08 to allow the program to develop, procure, operate, and sustain

software within a single budget line. This new acquisition approach flattens cumbersome budgetary processes unique to software-centric programs and is one of the many ways Space C2 is rapidly delivering capabilities based on prioritized warfighter needs.

In addition, wargaming and analytical studies show the most important effort the joint force can undertake to prepare for future conflicts is to ensure connectivity across all domains for all forces. DoD's effort in this areas is termed 'Joint All-Domain Command and Control (JADC2);' the Advanced Battle Management System (ABMS) initiative is a key Air Force and Space Force combined contribution to JADC2. JADC2 and ABMS seek a level of force integration and cross-domain C2 that our adversaries cannot match. When combined with the other Services' JADC2 initiatives, the resulting connection of the right data, right decision maker, and right shooter at speed and scale will provide decisive operational advantage. This is a prerequisite for winning future fights.

The Department has diligently worked to leverage non-traditional vendors, not only to expand the industrial base, but to find the most innovative and agile solutions. To improve upon the space enterprise and maintain our competitive advantage, we must accelerate innovation and procure next-generation technologies wherever we find them. The Space Force itself is a start-up, so it is a natural place for start-up businesses to contribute their ideas and technologies to national security. This includes the expansion of the Space Enterprise Consortium (SpEC), which provides an accessible, flexible avenue to increase non-traditional and small vendor participation in the National Security Space marketplace. Through this Consortium, we are minimizing the barriers small businesses face. It also allows for teaming arrangements between non-traditional and more traditional vendors. We are already using SpEC for some of our most critical capabilities, such as Space Domain Awareness; Position, Navigation, and Timing; satellite communications (SATCOM), and missile warning. For example, utilizing both MTA authorities and SpEC allowed the Department to bring protected tactical SATCOM operational capability three years sooner than the standard acquisition process.

The Department has also begun hosting Pitch Days, similar to commercial investment pitch competitions, to make it easier for start-ups and other non-traditional companies to work with the Department. These Pitch Days have included an initiative to bring in our **international partnerships**, with a highly successful International Space Pitch Day in 2020. Companies selected for awards came from **India, Australia, and the United Kingdom**; we look forward to sponsoring future events.

Ultimately, the Department is working through executing Congressional direction on how to accelerate space acquisitions, with many lines of effort being implemented to improve flexibility, speed, and efficiency. The Department is working through challenges while identifying which elements of these reforms are and are not working. We believe we are making huge strides in the delivery of systems across the space enterprise.

## **Space Systems Command**

In the coming months, the Space Force will formally stand up the new SSC, one of three Field Commands of the Space Force. SSC was designed to achieve unity of effort in space acquisition by driving a holistic approach across development efforts while adopting enterprise-wide standards and solutions in launch, ground, and command and control. One of the Department's goals with the formation and standup of SSC continues to address many long-standing Government Accountability Office concerns of disparate space acquisition efforts and organizations across the DoD. SSC will interface and coordinate with the Space Acquisition Council, the Program Integration Council, and other space advocacy and oversight committees to ensure integration of space systems and programs across the National Security Space Enterprise. One example of SSC designing for unity of effort is the standup of the Assured Access to Space organization, which will bring together all launch and range-related activities, to include the current Launch Enterprise acquisition organization, Space Launch Deltas 30 and 45, and the Range of the Future capabilities, under the leadership of the SSC Deputy Commander.

SSC's flat organizational structure will distribute staff responsibilities throughout the command in order to remain a lean organization, and provides an enduring, flexible framework to incorporate other Service organizations or programs into the Space Force in the future, such as the Mobile User Objective System, a current Navy narrowband satellite communications capability. SSC provides a foundational research lab arm that addresses unique space science and technology focused needs while leveraging the broader basic research investment across the DAF. SSC is custom-designed to meet the Chief of Space Operation's priorities and will deliver space capabilities at operationally relevant speeds.

### **Space Development Agency**

Per the Fiscal Year 2020 NDAA, the Space Development Agency (SDA) will become an essential component of the Space Force in October 2022. SDA acts as a "constructive disruptor" for space acquisition. Its unique business model values speed and lowers unit costs by harnessing commercial development to achieve a proliferated architecture and enhance resilience.

When we talk about how to transform space acquisition, SDA's schedule-driven approach, combined with spiral development, serves as a model for how to do business differently in the future. The disruptive capabilities they demonstrate and deliver can help the broader space acquisition enterprise employ new and streamlined approaches, incorporate mature technologies on a rapid cycle, and build resilience into our space architecture.

### **THE WAY AHEAD**

In conclusion, the U.S. Space Force will continue to promote and inform how we establish, partner, shape, and leverage responsible behavior in space. Our Service's inception brings the unprecedented opportunity to integrate organizational design, while creating new military options with the Joint Force, interagency, industry, and especially our allies and partners. As General Raymond has stated:

We are forging a warfighting Service that is always above. Our purpose is to promote security, assure allies and partners, and deter aggressors by demonstrating the capability to deny their objectives and impose costs upon them. We will ensure American leadership in an ongoing revolution of operations in space, and we will be leaders within government to achieve greater speed in decision-making and action. We will partner with and lead others to further responsible actions in, and use of, space to promote security and enhance prosperity. Should an aggressor threaten our interests, America's space professionals stand ready to fight and win.<sup>3</sup>

I thank Congress for your leadership and support. We are eager to work with your committee to secure our Nation's vital interests.

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<sup>3</sup> Ibid.