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Department of War
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SENATE ARMED SERVICES COMMITTEE
SUBCOMMITTEE ON EMERGING THREATS & CAPABILITIES
UNITED STATES SENATE

PRESENTATION TO THE
SENATE ARMED SERVICES COMMITTEE
SUBCOMMITTEE ON EMERGING THREATS & CAPABILITIES
UNITED STATES SENATE

HEARING DATE/TIME: May 19, 2026, 3:00 PM

SUBJECT: Air Force's Fiscal Year 2027 Science and Technology (S&T) Budget Request

STATEMENT OF:

Dr. Janet Wolfson, PhD, PE, SES
Associate Deputy Assistant Secretary
(Technology, Engineering, & Product Support)

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Introduction

Chair Ernst, Ranking Member Slotkin, and distinguished members of this Subcommittee, thank you for the opportunity to testify today on the Air Force's Fiscal Year 2027 Science and Technology (S&T) budget request. We are proud to represent the Air Force's S&T enterprise, working in full alignment with the Under Secretary of War for Research and Engineering (USW(R&E)) to ensure the United States military, and especially the Department of the Air Force (DAF), maintains a decisive and overwhelming advantage in any and every domain of warfare.

The DAF's Air Force Research Laboratory's (AFRL) mantra of "One Lab, Two Services" captures the integrated nature of our mission, supporting the critical air, space, and cyberspace domains. Our FY27 budget request is directly responsive to the Department of War's priorities, making increased investments in the critical technology areas identified by the USW(R&E) and deconflicting our efforts across the services to focus on Air Force unique technology gaps. We are committed to delivering tangible, battlefield-ready results to our warfighters at velocity and scale.

A Focused Strategy for Air Dominance

Under a revitalized and unified strategic structure, the Air Force S&T enterprise is attacking the hard S&T problems, while also identifying opportunities for industry to integrate directly. This is being achieved by AFRL moving away from a technology-specific structure to one designed to deliver the integrated capabilities necessary to win the future through mission alignment.

This mission-centric focus is embodied in our Warfighter Technologist (WARTECH) process, which puts the full weight of our technology development base behind integrated demonstrations. While WARTECH identifies and invests in the most challenging S&T problems, the Air Force continues to scout the commercial sector, sourcing new solutions to old problems and ensuring we harness the full potential of our nation's unparalleled innovation ecosystem.

Investing in Decisive Military Capabilities

Our budget is focused on delivering the capabilities needed to deter conflict and decisively prevail in any battlefield scenario. The following investment areas represent our commitment to fielding technologies that provide an insurmountable advantage to the American warfighter.

- **Scaled Hypersonics:** As a top modernization priority for the Department, the Air Force is rapidly advancing both offensive hypersonic strike capabilities and the layered defenses required to counter adversary systems. Our investments in boost-glide systems and air-breathing scramjet missiles are critical to providing the Joint Force with time-sensitive, precision strike options in contested environments. We are focused on the materials and manufacturing advances needed to field these systems at scale, ensuring our warfighters have the tools to project power and hold any target at risk.
- **Advanced Battery and Energy Storage:** Dominance in the air and space domains is increasingly reliant on resilient and high-performance energy solutions. While the commercial sector continues to drive standard battery innovation, the Air Force, like our sister services, is deliberately investing where industry will not—targeting the hard, DoW-unique power and thermal challenges inherent to extreme combat environments. We are prioritizing advanced, specialized battery technologies to enhance the

performance, endurance, and reliability of critical operational systems, from high-altitude unmanned platforms to forward-deployed expeditionary equipment. By explicitly solving these complex, military-specific power problems, we provide our warfighters with greater operational flexibility and drastically reduce our dependence on vulnerable logistical supply chains in contested areas.

- **Strategic Deterrence and Nuclear Modernization:** All Department of War (DoW) Operational Plans depend on a credible, reliable, and effective nuclear deterrent. The Department of the Air Force (DAF) nuclear deterrence operations programs focus on developing and reestablishing the specialized expertise, infrastructure, and nuclear delivery system capabilities needed to modernize and mature nuclear delivery system technologies that will enable the DAF and the DoW to operate in peer-contested nuclear environments. These programs operate in a highly integrated, cost-effective manner to minimize technical and programmatic risks to the execution of collective modernization activities across the DAF, the DoW, and the Nuclear Security Enterprise (NSE).
- **Fifth-Generation Sustainment and Mission Readiness:** The ability to "Fly, Fight, and Fix" our most advanced platforms is paramount to maintaining air superiority. The Air Force is addressing the sustainment challenges for our 5th-generation fighter fleet across the entire platform—from canopies and airframes to advanced engine components. Crucially, we are optimizing fleet readiness by advancing Non-Destructive Investigation (NDI) capabilities. This technology enables the Air Force to transition toward predictive, condition-based maintenance, allowing us to optimize sustainment efforts around likely component failure cycles rather than rigid time schedules. By investing in these technologies that improve reliability and reduce maintenance burdens, we ensure our most critical assets are ready to project power and defend our national interests.

Accelerating Technology to the Field

Further, in accordance with Section 806 of the National Defense Authorization Act for Fiscal Year 2024, the Air Force has designated a Principal Technology Transition Advisor (PTTA) to formally advise the Service Acquisition Executive on transitioning technology to meet warfighter requirements. We are also revitalizing the innovation ecosystem – accelerating the links between our organic Science & Technology enterprise, the commercial industrial base, and our acquisition programs. These enhancements to our technology transition and innovation ecosystems are essential to our efforts to evolve our acquisition engine which will enhance our ability to identify, evaluate, and recommend promising technologies for early adoption.

Conclusion

Every investment we make and every technology we accelerate is done with a single purpose: to serve the American warfighter. We are building a modern Arsenal of Freedom, and our men and women in uniform deserve nothing less than the very best technology our nation can produce.

Distinguished members of this subcommittee, thank you again for your engagement on these critical issues and for your steadfast support of our service members. I look forward to answering your questions.