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IN FOCUS

Updated November 16, 2026

The Defense Innovation Ecosystem

Providing for the national defense is a central concern of Congress. Technological advantage has long contributed to decisive U.S. military victories and deterred potential conflicts. Underpinning U.S. technological advantage is the *defense innovation ecosystem*—a broad set of organizations, activities, functions, and processes that research, develop, produce, and field new or improved technologies and capabilities for military use. The defense innovation ecosystem is composed of organizations and activities both within the Department of Defense (DOD; e.g., DOD laboratories), which is "using a secondary Department of War designation" under Executive Order (EO) 14347, and outside of DOD (e.g., universities and small businesses).

While, historically, DOD has influenced the trajectory of U.S. technology development, largely because of the magnitude of its investments in research and development (R&D), DOD and the federal government, more broadly, are no longer the dominant funders of U.S. R&D. Today, private sector R&D investments, which account for three-quarters of U.S. R&D, and commercial markets drive much of the development of leading-edge technologies in fields important to national security and defense such as artificial intelligence (AI), robotics, and advanced materials. Additionally, China has surpassed the United States as the largest performer of R&D globally. These shifts have substantial implications for how DOD maintains technological superiority.

DOD and Congress have taken several steps intended to improve government support for, and management of, defense-related research, development, and innovation. Examples include providing policy direction and establishing new innovation-related positions, organizations, and programs within the department. This In Focus addresses some of these recent efforts by Congress and DOD to improve defense innovation and some remaining challenges.

"Transforming the Defense Innovation Ecosystem" Memorandum

DOD's innovation organizations directory currently includes 294 entities. Many of these entities are focused on connecting private sector companies to DOD and accelerating the identification, development, and adoption of commercial technologies by military departments and DOD components. On January 9, 2026, the Secretary of Defense, who is using "Secretary of War" as a secondary designation under EO 14347, released a memorandum—"Transforming the Defense Innovation Ecosystem to Accelerate Warfighting Advantage." In the memorandum, the Secretary refers to the department's innovation ecosystem as a "tangle of overlapping organizations" and a "maze of competing front doors." To "end the confusion," the memorandum tasked the Chief Technology Officer (i.e., the Under Secretary of Defense for Research and Engineering) "to modernize the Department and align innovation organizations around outcomes." It also specifies that the DOD innovation ecosystem is composed of six execution organizations—the Defense Innovation Unit (DIU), the Strategic Capabilities Office, the Defense Advanced Research Projects Agency, the Chief Digital and Artificial Intelligence Office, the Test Resource Management Center, and the Office of Strategic Capital (OSC). Two prominent execution organizations—DIU and OSC—are described in more detail below.

Defense Innovation Unit

Originally established in 2015 by the Secretary of Defense, DIU focuses exclusively on prototyping and fielding commercial capabilities that solve operational challenges across the U.S. military.

In the National Defense Authorization Act (NDAA) for Fiscal Year 2024 (P.L. 118-31) Congress codified and expanded the responsibilities of DIU. For example, it directed DIU to serve as the principal liaison between DOD and individuals and entities in the national security innovation base, including entrepreneurs, start-ups, commercial technology companies, and venture capital sources. It also directed DIU to coordinate and harmonize the activities of other organizations and elements of DOD on matters relating to commercial technologies and to use funds made available to DIU to select, support, and monitor the execution of projects that are to be carried out by service-level innovation organizations (e.g., AFWERX).

In a July 2026 memorandum, then-DIU Director Owen West announced three new focus areas for DIU, each drawing on a cross-cutting emphasis on AI integration: "Autonomous Warfare" includes unmanned systems across air, ground, and sea; automatic target recognition; computer vision; and counter-unmanned aircraft systems. "Kill Web" includes sensors, networks, and decision systems; space, communications, and networking; electronic warfare; and cyber. "10x" focuses on making advancements that are 10 times cheaper, better, and faster and includes sustainment, force resilience, scaled combat power, and the future warfighter.

An August 2026 DIU memorandum announced the establishment of "a new business unit, the Bridge Program, tasked with raising the probability of adoption by deepening transition." The Bridge Program was established "to eliminate critical bottlenecks—specifically surrounding security clearances, access to classified spaces, technology accreditations, and testing" as part of a "commercial-first strategy."

Office of Strategic Capital

On December 1, 2022, then-Secretary of Defense Lloyd Austin established OSC, which seeks to "accelerate and scale private investment in critical supply chain technologies needed for national security."

Section 903 of P.L. 118-31 established OSC in statute to "(1) develop, integrate, and implement capital investment strategies proven in the commercial sector to shape and scale investment in critical technologies and assets; (2) identify and prioritize promising critical technologies and assets that require capital assistance and have the potential to benefit [DOD]; and (3) make eligible investments in such technologies and assets, such as supply chain technologies not always supported through direct investment." P.L. 118-31 also authorized OSC to "carry out a pilot program ... to provide capital assistance" (i.e., loans and loan guarantees) in support of its mission.

OSC's capital assistance pilot program includes both direct debt financing for companies and the financing of venture capital and other investment funds. For example, on November 2, 2026, OSC announced, "a conditional loan commitment of up to $450 million to Neros, Inc., a U.S.-based developer and manufacturer of … small unmanned aircraft systems[,] … intended to support Neros' domestic manufacturing expansion and reduce reliance on foreign-made components." On August 20, 2026, OSC released a notice of funding opportunity for its National Security Fund Finance program that seeks to "combine OSC loans with private capital to invest in portfolio companies focused on solving U.S. national security shortages, gaps, and vulnerabilities with respect to Critical Minerals and Materials Supply Chains."

Issues for Congress

Despite recent efforts, defense experts and others remain concerned that DOD is not adopting and transitioning innovative technologies at the speed and scale necessary to deter strategic competition and to address other acute and persistent threats. The following describes selected issues for congressional consideration.

Coordination Across DOD Components and Measurement of Performance

While some level of redundancy and duplication may be necessary, the sheer number of DOD innovation-related organizations and their potentially overlapping missions, functions, and responsibilities can pose challenges both within and outside of the department. For example, a 2023 RAND study noted that "priorities and activities are not aligned, and collaboration is not incentivized, leading to inefficiencies and unnecessary costs."

While the January 2026 memorandum seeks to unify the DOD innovation ecosystem by establishing six execution organizations and requiring the military services to create service-level innovation plans, one commentary by a defense expert notes that the memo lacks "clear goals or benchmarks" and does not "immediately confront and work to minimize the front door problem that exists for industry."

Similarly, a February 2025 report from the U.S. Government Accountability Office (GAO) found that "DIU has limited ability to gauge progress toward addressing DOD's most critical needs because it does not yet have a complete performance management process." GAO recommended that DIU establish "measurable performance goals with associated metrics that have quantitative targets and time frames to ensure DIU is able to assess progress." It also recommended that DIU develop and document a process for assessing and strengthening the accountability of its collaboration efforts with other DOD innovation organizations (e.g., service-level innovation entities).

DOD Innovation Workforce

Reports from the Defense Innovation Board (DIB), which was subsumed into the new Science, Technology and Innovation Board created in January 2026, and the Center for a New American Security (CNAS) both have referenced the need to develop and maintain innovation talent across DOD. According to the DIB, the loss of innovators within DOD "is not a lack of dedication to the Department's mission but burnout due to lack of top cover, the cumbersome bureaucracy, and the stale processes." CNAS suggests the creation of "talent management and career development pathways for innovation leaders that rotate promising individuals through, at a minimum, operational, R&D, and acquisition assignments." Similarly, the DIB notes that the establishment of a "credible, practical, and recognized career path for innovators" may provide several benefits to DOD and its employees, including enhancing employee engagement and satisfaction, improving talent retention rates, and facilitating succession planning.

Flexible Funding and Other Processes

Defense experts commonly recommend flexible processes, especially flexible funding to increase the speed and scale of technology adoption. For example, CNAS and the DIB identified consolidation of budget program elements, higher reprogramming thresholds, and the use of capability portfolio management as actions that could increase DOD's flexibility during the year of budget execution and the adoption and integration of new technologies. CNAS notes that "the recommendations of the [Planning, Programming, Budgeting, and Execution] PPBE Commission represent one way to achieve these goals and create more iterative processes within [DOD]." Additionally, the January 2026 memorandum directs portfolio acquisition executives, beginning in the FY2028 budget, to include "an Innovation Insertion Increment (III)—a portfolio-managed funding allocation for rapid insertion of capabilities into systems."

Congress may consider examining the effectiveness of individual DOD innovation organizations and how such organizations interact with one another to better align responsibilities and resources. Such oversight may include implementation of the January 2026 memorandum and examination of whether or not there is improved collaboration and coordination across the defense innovation ecosystem. Congress may also consider the development of standardized, department-wide metrics and accountability mechanisms, in addition to efforts to develop and foster DOD's innovation workforce.

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IF12869

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