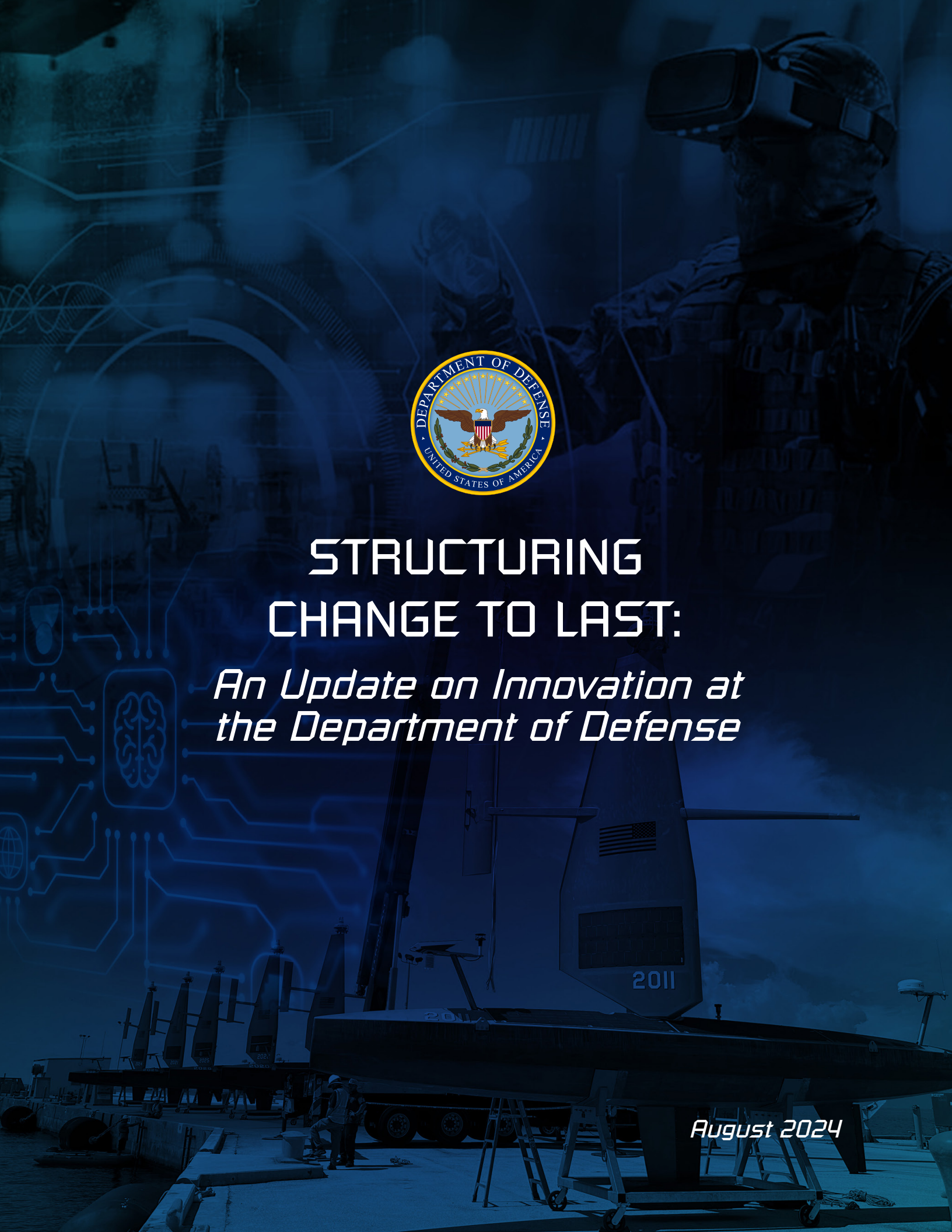


STRUCTURING CHANGE TO LAST:

An Update on Innovation at the Department of Defense

August 2024

STRUCTURING CHANGE TO LAST

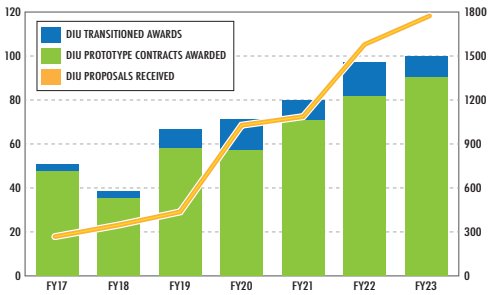
The Department of Defense is executing a warfighter-centric innovation strategy to meet the urgent needs of the National Defense Strategy. Recognizing there is no silver bullet that can solve all the challenges DoD faces, DoD's innovation initiatives span every stage of capability development and every process step, from policy to acquisition.

WE ARE TACKLING ROADBLOCKS AND EMBRACING INNOVATIVE CONTRACTING TOOLS TO WORK BETTER WITH COMMERCIAL AND NON-TRADITIONAL FIRMS

We committed to working better with all industry. In November 2022, the Deputy Secretary of Defense launched the Innovation Ecosystem initiative to focus the Department's innovation leaders on the task of removing systemic barriers that impede a healthy, competitive, innovation ecosystem. The effort identified nearly 50 of the most critical pain points that companies, universities, and innovators of all kinds are experiencing — each one representing a variety of individual obstructions to innovation.

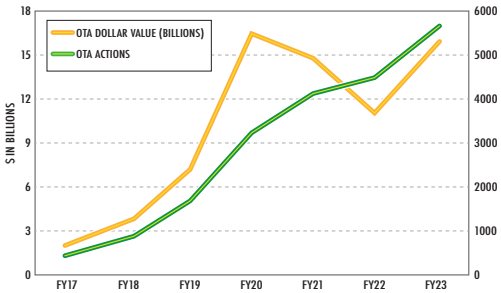
To engage more with the commercial tech sector. In April 2023, the Secretary of Defense elevated the Defense Innovation Unit (DIU) to be a direct report, kicking off the third iteration of DoD's flagship innovation body. DIU is at the vanguard of the Department's rich Defense Innovation Community of Entities (DICE), which collectively focus on engaging the non-traditional commercial sector.

DIU THROUGHPUT



To collaborate creatively – meeting innovators where they are. To improve access to innovative companies and technologies, DoD leverages innovative contracting techniques such as Other Transactions (OTs) and Commercial Solutions Openings (CSOs). OTs have been in use for decades, but over the last ten years, DoD has increasingly employed them to target non-traditional defense contractors. CSOs, established in the FY17 NDAA and made permanent in the FY22 NDAA, are a merit-based bid selection strategy for acquiring late-stage research and development or other innovative technologies. CSOs provide DoD with the means to reduce the burden for commercial companies to compete, as well as for the Department to rapidly move to award of either FAR-based contracts or OTs.

OTHER TRANSACTION ACTIONS



And to accelerate and scale private investment in critical technologies. In December 2022, the Secretary Defense established the Office of Strategic Capital (OSC) to develop, integrate, and implement proven partnered capital strategies to align and scale investment in critical technologies for national security. With support from Congress over the last year, DoD now has the funding and authorities to issue loans and loan guarantees, and OSC will start calling for applications this fall.

WE ARE BRIDGING THE VALLEYS OF DEATH

From promising prototypes to military capability. In October 2021, the Secretary of Defense established the Rapid Defense Experimentation Reserve (RDER) initiative to expand multi-DoD Component experimentation in a structured, multi-year campaign of learning to accelerate new capabilities to fill critical joint warfighting capability gaps. Nine capabilities participating in RDER have since transitioned to follow-on programs for continued development, production, and deployment, including a five year acceleration of the USMC's Family of Integrated Targeting Cells (FITC) program.

From military capability to program of record. In December 2021, Congress established and funded the pilot Program to Accelerate the Procurement and Fielding of Innovative Technologies (APFIT) to expeditiously transition technologies from development into production and to accelerate the fielding of those technologies to the warfighter. Since then, the program has executed $550 million in support of 40 projects, including drop glide munitions with the Army and AI enabled integrated air defense cameras with the Air Force.

	FY22	FY23	FY24
APFIT AWARDS	$100M	$150M	$300M
APFIT PROJECTS	10	11	19

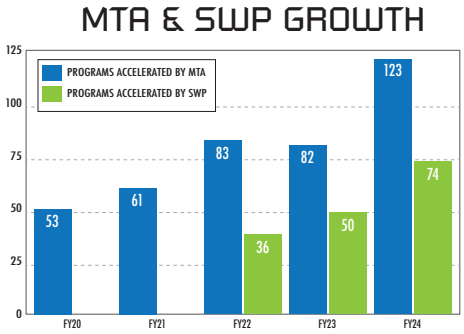
In April 2022, the Defense Department stood up the Competitive Advantage Pathfinders (CAP) to overcome bureaucratic and cultural barriers to delivering capabilities at scale to the warfighter. The first six pathfinder programs have highlighted innovative approaches across DoD, yielding a set of actionable recommendations aimed at institutionalizing lessons-learned and enduring policy reforms, while also accelerating the capability deliveries by an average of two to four years. One pathfinder demonstrated the power of cross-Service capability migration by taking an already-operational Navy capability used to protect ships and integrating it onto an Army platform to protect vehicles and warfighters.

From program of record to rapid, scaled production. Announced in August 2023, the Replicator initiative is an effort to accelerate delivery of innovation to the warfighter at speed and scale through senior leader focus on a specific operational challenge and capability. Replicator is on track to deliver all-domain, attritable autonomous (ADA2) systems to warfighters at a scale of multiple thousands,

across multiple warfighting domains, by August 2025 to meet expressed warfighter demand. We've already seen Replicator change behavior across DoD, and now, we are looking beyond ADA2 systems to identify Replicator's second capability focus area.

WE ARE INCREASING THE USE OF MORE FLEXIBLE ACQUISITION PATHWAYS ACROSS THE DEFENSE DEPARTMENT

We focused on rapid fielding for hardware. Established in December 2019, the Middle-Tier of Acquisition (MTA) pathway is used to rapidly prototype and field new systems. Since FY21, the MTA pathway has spent $44.3 billion on 168 programs across DoD. Components are using the MTA pathway to responsibly accelerate technology maturation and transition to the field.



And software. Similarly, the Software Acquisition Pathway (SWP) was created to facilitate rapid and iterative delivery of software capability to the user. Since inception in early FY21, DoD has accelerated 78 total programs, with 74 currently active programs under the SWP, spending $13.1 billion. 75% of SWP programs are delivering on cadences less than six months.

Of note, some programs are using more than one pathway, like the Army's TITAN, used for fusing and disseminating sensor data across domains. It was designed from inception with dual-pathway acquisition approach – it is currently using MTA to covering development and delivery of 10 prototypes. TITAN will then transition hardware to the Major Defense Acquisition Program-type pathway and software to SWP, to allow for more rapid, iterative approach of the latter.

WE ARE INVESTING IN DATA AND AI STRUCTURE

We improved our AI-enabling policies. In May 2021, the Deputy Secretary of Defense issued a set of five 'DoD Data Decrees' to ensure DoD data is visible, accessible, understandable, linked, trustworthy, interoperable, and secure, and the Deputy Secretary of Defense directed the Department's holistic, integrated and disciplined approach to Responsible AI (RAI). In June 2022, DoD established the RAI Strategy and Implementation Pathway to guide the Department's strategic approach for advancing RAI and operationalizing the DoD AI Ethical Principles. In January 2023, DoD updated DoD Directive 3000.09, Autonomy in Weapon Systems, signaling DoD's continuing commitment to safe and responsible leadership in the development and fielding of AI and autonomous system.

And our AI-enabling structure. In June 2021, DoD created the DOD AI and Data Acceleration (ADA) initiative to dispatch operational data teams to all combatant commands to decrease the

barrier to entry for data projects and to deliver data-centric capability to the warfighter. In February 2022, DoD consolidated the Joint Artificial Intelligence Center (JAIC), Project Maven, the Chief Data Officer (CDO), Defense Digital Services (DDS), and the enterprise data analytics platform Advana to create the Chief Digital and Artificial Intelligence Office (CDAO) as a Principal Staff Assistant (PSA) to the Secretary of Defense on all matters related to data and AI. Finally, in August 2023, the Deputy Secretary of Defense directed the organization of Task Force Lima in analyze and integrate generative AI tools across DoD.

WE ARE ADVANCING AI OPERATIONAL APPLICATIONS

We improved our AI hardware. In December 2022, DoD stood up the Joint Warfighting Cloud Capability (JWCC), a multiple-award contract vehicle to provide DoD the opportunity to acquire commercial cloud capabilities and services directly from the commercial Cloud Service Providers. DoD has executed over $969 million on JWCC and has 75 other packages in the process for award.

And how we use it. In January 2023, CDAO relaunched the Global Information Dominance Experiments (GIDE) to iteratively test, measure, optimize, and field Combined Joint All Domain Command and Control (CJADC2) solutions. Using an every 90-day experimentation cycle, CDAO and GIDE baselined CJADC2 capabilities at the Combatant Command and Joint Staff level and proceeded to demonstrate the value of a rapid experimentation approach for capability development. In February 2024, DoD announced a minimum viable capability for CJADC2 that has been fully funded and is now being actively used at U.S. Indo-Pacific Command, U.S. Central Command, and U.S. European Command.

CONCLUSION

Over the last four years, the Department of Defense has focused on the urgency to innovate and structuring change to last. And the work does not stop here. We are committed to getting out of our own way, better using our resources, working with commercial partners, and first and foremost getting the warfighter what they need at greater speed and scale.