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Introduction

Chairman Bacon, Ranking Member Khanna, and Members of the Subcommittee, I appreciate the opportunity to speak to the Committee about technology and innovation in the Department of Defense (DoD). Also, thank you for your focus on this critical set of issues, and on the role of the Defense Innovation Unit (DIU) in ensuring that commercially derived technology, alongside bespoke defense-specific development, is brought to bear in meeting the Department's challenges.

The relentless pace of innovation in the commercial technology (tech) sector is changing the character of war at an unprecedented rate. The Department must dramatically accelerate the efforts underway to lead in this environment in order to build and sustain the global leadership position our national security requires. We simply cannot meet the strategic imperative facing our nation unless we can integrate and deploy disruptive technologies from commercially derived sources with the focus, speed, and scale necessary to deter our nation's competitors and ensure victory in potential conflicts, in line with the priorities of the 2025 Interim National Defense Strategic Guidance (INDSG).

For the DoD to effectively rebuild our military, reestablish deterrence, and deter aggression, we must dramatically increase our leverage of commercial technology, and we must do it now. DIU, as the Department's lead for adopting commercially derived technology, is working with partners across DoD in executing against this imperative. We have made enormous progress, but we have a very long way to go and a narrow window of time to make a more dramatic change a reality. As a nation, we have a historic opportunity – and requirement – to accelerate this work, and we cannot afford to miss it.

The Strategic Imperative

Technological innovation, spurred by trillions of dollars of private investment and innovation in areas of technology critical to U.S. military power, is advancing at a much faster pace in the private sector than in the traditional defense sector.[1] Technology in critical areas like artificial intelligence (AI), autonomy, cyber, space, biotechnology, energy, quantum, and advanced manufacturing is moving far faster to meet the relentless demands of billions of consumers around the world and the enterprises that serve them than it ever could through defense-only pathways.

Ukraine, the Middle East, and other battlefields around the world have clearly demonstrated how advanced dual-use technologies, propelled primarily by private sector innovation, are fundamentally shaping the character of war. This proliferation of critical technologies, including those easily accessible by a broader range of current and potential adversaries, poses both opportunities and challenges as it also extends capabilities once exclusive to nation-states to a broader spectrum of users. As powerful – and as challenging – is the rate of update to these technologies we are seeing in Ukraine and elsewhere. The DoD must be able to update its own capabilities in many of these fields within weeks or even days, or risk those capabilities being obsolete before even being produced, much less deployed. We simply cannot meet the strategic imperative facing our nation without taking full advantage of the disruptive capabilities from our commercial tech sector – and the constant pace and scale of its innovation. The Trump Administration understands this and is making acquisition reform and the leverage of commercially derived and dual-use technology a focus of transformation efforts both in the Department and government-wide, and the Congress – as evidenced by the most

[1] United States Joint Chiefs of Staff. "Joint Doctrine Note 1-18, Strategy". GPO, 2018

recent Reconciliation Bill in the House – is moving to reinforce and catalyze these efforts.

DIU as the National Mission Force for Innovation and Department-wide Lead for Scaling Commercial Technology

Today, DIU is working with partners across the Department by applying our unique capabilities, and the authorities and resources that Congress has provided, to ensure that the United States is in a position to take full advantage of the very best commercially derived hardware and software to meet the strategic imperative. DIU does this in two ways. First, as the Department's national mission force for innovation, DIU helps deliver technology solutions to meet the most critical operational capability gaps with the focus, speed, and scale needed for strategic effect. And second, as a Principal Staff Assistant to the Secretary and the Department's "principal liaison" to the commercial tech sector,[2] DIU serves as a vanguard, catalyst, and leader for DoD's broader efforts to institutionalize and scale commercial technology integration and strategic impact, as well as to help put the commercial tech sector – and our allies and partners – in a position to meet our needs both today and in the future.

Central to our ability to execute on both parts of this mission is our mastery of the Commercial Solutions Opening (CSO) process and Other Transaction Authority[3] to rapidly and competitively deliver capability. Since DIU's inception, we have awarded 531 prototype awards worth $2.4 billion across 411 unique vendors, of which over 91% have been nontraditional,[4] 68% small businesses, and 32% to first time vendors, with awardees from 37 states and the District of

[2] 10 U.S.C. § 4127.
[3] 10 U.S.C. § 4022.
[4] As defined by 10 U.S.C. § 3014, a nontraditional defense contractor "means an entity that is not currently performing and has not performed, for at least the one-year period preceding the solicitation of sources by the Department of Defense for the procurement or transaction, any contract or subcontract for the Department of Defense that is subject to full coverage under the cost accounting standards prescribed pursuant to section 1502 of title 41 and the regulations implementing such section."

Columbia, demonstrating DIU's commitment to leveraging the breadth of expertise and ingenuity across the nation.

Since last year, we have relentlessly executed the DIU 3.0 vision to deliver strategic impact across DoD to ensure that we rapidly field capabilities to match the threats our warfighters face. DIU acts across seven portfolios: AI, Autonomy, Cyber and Telecommunication, Energy, Human Systems, Space, and, established in May 2024, Emerging Technology. Today, DIU is expanding into advanced manufacturing, leveraging relationships with some of the best companies in this space and recognizing the enormous impact that emerging capabilities from digital engineering to 3D printing can have. In Fiscal Year (FY) 2024, DIU posted 27 new solicitations across the full range of tech portfolios, and received 2,436 commercial proposals from every State of the Union, a 38% increase from the prior year. DIU awarded 81 new prototype contracts, with a total prototype contract value of $403.8 million, and transitioned 13 commercial solutions, bringing the cumulative transition rate to 56%.[5]

In just one example from 2024, the Production-Ready, Inexpensive, Maritime Expeditionary small unmanned surface vehicle project (sUSV PRIME) launched in January 2024, resulting in three awards by summer 2024 using a combination of Navy partner and DIU agile funding. Aggressive prototyping resulted in success memos by the first quarter FY 2025, allowing DIU's Navy transition partner to begin negotiations for follow-on production to meet U.S. Pacific Fleet requirements for attritable interceptors. And on the software side of this autonomy equation, DIU, in close collaboration with U.S. Indo-Pacific Command (USINDOPACOM), the Military Services, the Chief Digital and Artificial Intelligence Officer, and other components across the Department, announced contract awards to select software

[5] DIU defines transition as when the CSO prototype successfully completes and results in a production or service contract with a DoD or U.S. government entity.

developers to advance resilient command and control and collaborative autonomy solutions for all domain attritable autonomous systems, going from concept to award in just five months. Together, these software solutions will enable "heterogeneous collaboration" between different Replicator systems fielded in the next year and lay the foundation for the Department's broader push towards collaborative autonomy.

Making DIU 3.0 a Reality

All of this progress rests on five core lines of effort that underpin the DIU 3.0 strategy launched in late 2023.[6]

LOE 1: Focus. First, DIU has embedded deeply with warfighters at the combatant commands, to understand their needs and help shape how technology can solve them. This is why, for example, we have embedded DIU personnel at USINDOPACOM – as Admiral Paparo's commercial technology integration lead – and U.S. European Command (USEUCOM), as well as in the United Kingdom (UK) and Security Assistance Group-Ukraine. DIU liaisons also ensure connectivity with U.S. Northern Command, U.S. Southern Command, U.S. Central Command, U.S. Special Operations Command (USSOCOM), and U.S. Strategic Command. We also work closely with each of the Services to ensure that we address their critical priorities. All of these embeds and liaisons position DIU to understand the warfighter's needs and help shape approaches to how technology might solve them.

Importantly, DIU was realigned in April 2023 to report directly to the Secretary of Defense, accelerating the adoption of cutting-edge commercial technologies across the Department. This direct reporting line, coupled with a reciprocal working relationship with the

[6] Douglas A. Beck. "DIU 3.0: Scaling Defense Innovation for Strategic Impact." 7 February 2024. https://www.diu.mil/latest/diu-3-0-scaling-defense-innovation-for-strategic-impact

Under Secretaries of Defense (USD), ensures our projects – including those supporting Combatant Commands– are fully aligned with the INDSG. The result is that DIU's portfolio of projects is generally aligned to the needs of at least one combatant command. For example, the Thunderforge CSO awarded a prototype contract to deliver cutting-edge generative AI-enabled capabilities to enhance operational and theater-level planning. This capability will accelerate combatant commands' ability to rapidly analyze information and develop operational plans. Thunderforge prototypes will be demonstrated at major upcoming combatant command exercises with both USINDOPACOM and USEUCOM, whose common and unique needs have been built into the design.

LOE 2: Scale. Second, DIU leverages our unique position as the Secretary's arm for innovation – with direct relationships at the leadership level of the Services and with the Department's other "engines of scale" across the Office of the Secretary of Defense and the Joint Staff (for example in the intelligence and defense health arenas) – to ensure that the technologies have a pathway to the scale and supporting capabilities (the doctrine, organization, training, materiel, leadership and education, personnel, facilities, and policy necessary for them actually deliver the strategic impact required. For example, to address fighter pilot shortages and training limitations, DIU partnered with the Air Force's Air Education and Training Command to develop Virtual Training for Air Dominance (VTRAD), using commercial gaming software and synthetic environments to deliver scalable, low-cost, high-fidelity simulation. VTRAD enhances readiness, adapts to evolving air tactics, and, following two success memos in December 2024, is currently being deployed across all U.S. Air Force pilot training bases.

The unique agile funding authority Congress provided DIU in FY 2024 was a key enabler of our ability to partner with the Services to deliver capability at unprecedented speed. One of the first examples was DIU's partnership with the Army on Company-Level sUAS.[7] We applied $15 million in FY 2024 through our agile funding line to enable the Army to prototype and deploy this capability, in response to an Army Futures Command directed requirement, based on lessons learned from ongoing conflicts. We helped the Army go from idea to initial fielding in just six months, compared to an average of two to five years for Middle Tier Acquisition. We are now working with our Army partners to ensure funding accelerates in FY 2025, while the Army simultaneously builds in funding for scale in future fiscal years. Together, we are bridging the valley of death and delivering warfighter impact – and a successful reference case for private sector investment. DIU has similar examples with each of the Services, including the Navy and Department-wide sUSV PRIME and collaborative autonomy projects described above, and *every* project at DIU now is required by our internal processes to have a "pathway to scale" – a partnership with a Service and/or another scaling entity such as USSOCOM, with risk appropriate to the uncertainty of technology – that provides credible potential for strategic impact.

In another manifestation of partnership for scale, DIU has also led the Replicator Initiative, which has brought the entire Department together to deliver concrete impact at unprecedented speed on a critical strategic need – in the case of Replicator-1 the fielding of multiple thousands of unmanned systems across multiple domains this summer, and – even more

[7] Company sUAS is a Directed Requirement approved in June 2023 to enable Army maneuver companies (3-4 platoons consisting of up to 200 soldiers total) to conduct multiple tasks with rapidly reconfigurable, attritable, modular payload capabilities to execute reconnaissance, surveillance, and target acquisition missions. Courtesy Asset, U.S. Army. "The U.S. Army Selects Vendors for the Company Level Small Uncrewed Aircraft System Directed Requirement for Brigade Combat Teams." 11 September 2024. https://www.army.mil/article/279603/the_u_s_army_selects_vendors_for_the_company_level_small_uncrewed_aircraft_system_directed_requirement_for_brigade_combat_teams; U.S. Department of Defense, "Military Units: Army." https://www.defense.gov/Multimedia/Experience/Military-Units/Army/#army.

important – to help the Department develop the muscle to do so again and again. Replicator-1 has also provided an enormous catalyst for the development of the unmanned systems markets in the United States for both hardware and software, with nearly 100 prime contractors and major sub-contractors participating. About 75% of the companies currently involved in supplying Replicator-1 capabilities are non-traditional defense contractors, in line with DIU's usual pattern of results. Even as we help deliver the concrete impact for Replicator-1, which will begin to field this summer, the Department is already hard at work on Replicator-2, focused on the centrally important challenge of defending critical assets against small unmanned aerial systems.

Another, more recent, example of DIU helping to scale impact across the Department is Secretary Hegseth's directive for the Undersecretary of Acquisition and Sustainment to partner with DIU to mandate the use of DIU's CSO process to deliver software at speed and scale across the Department.[8] Reinforcing this initiative is DIU's Immersive Commercial Acquisition Program (ICAP), which brings talented acquisition professionals from across the Department to help train them in the best of CSO capability, so they can go on to help train many others in their home services.

LOE 3: Synergy. DIU has helped catalyze DoD's many disparate innovation entities into a community of impact – the Defense Innovation Community of Entities (DICE) – finding synergy and eliminating dyssynergy. With this team, we've transferred best practices and worked together to identify systemic barriers, so we can use our role in DoD's leadership to help knock them down. For example, DIU escalated the common and consistent systemic barrier represented by onerous authority to operate rules for software across the Services, and then partnered with the Chief Information Officer to help simplify the related processes, which

[8] Secretary of Defense. "Directing Modern Software Acquisition to Maximize Lethality." 6 March 2025. https://media.defense.gov/2025/Mar/07/2003662943/-1/-1/1/DIRECTING-MODERN-SOFTWARE-ACQUISITION-TO-MAXIMIZE-LETHALITY.PDF

resulted in the release of the Cybersecurity Reciprocity Playbook in May 2024.[9] DIU is also working with all of these partners to enhance synergy, for example implementing customer relationship management tools to optimize DoD outreach to the tech sector, avoid duplication of effort, and simplify the tech sector's experience of the Department. DIU has also worked with DICE partners to tackle some of the most critical barriers experienced by commercial partners working with all of these organizations. As a result, DIU has launched several new initiatives aimed at making it easier for the companies prototyping with any members of the DICE to navigate the defense business landscape and successfully transition to production contracts. Pilot programs include assessments of cybersecurity practices and hygiene; assessments of cyber and operational security of products; part-time access to Facility Security Officers for policy, procedure, personnel, or facility clearance issues; and access to Authority to Operate subject matter experts to expedite approvals. Additionally, DIU has partnered with the Space Development Agency to fund innovative SCIF-as-a-Service capabilities - something that will help all DICE members scale.

LOE 4: Commercial leverage. Fourth, DIU continues to push the bounds of the Department's relationship with the tech sector. At the core of these efforts are DIU's technology portfolios, organized in each of the critical areas of technology needed by the Department and made up of dual fluency teammates who are native speakers of both "tech sector-ese" and "warfighter-ese." This talent is DIU's "secret sauce." By uniting dual fluency teams across the Department in key areas of importance and strategically investing resources, we can drive meaningful advancements in new ways to meet warfighter needs and national security imperatives. The Servicemember Quality of Life Improvement and National Defense

[9] Department of Defense "Cybersecurity Reciprocity Playbook." March 2024. https://dodcio.defense.gov/Portals/0/Documents/Library/(U)%202024-01-02%20DoD%20Cybersecurity%20Reciprocity%20Playbook.pdf.

Authorization Act for Fiscal Year 2025 further strengthened DIU's ability to deliver capability through the section 216 expanded hiring authorities that allow DIU, and our innovation partners across the Department, to better attract dual fluency talent from the private sector to identify and adopt best of breed commercial technology to solve operational challenges.[10]

DIU works across the tech sector and the country to lower barriers to entry and offer a unified digital and physical "front door" for founders, funders, students, and businesses of all sizes to discover and engage with relevant opportunities to solve defense problems. DIU's Commercial Operations directorate centralizes tech sector outreach, talent, accelerator, early-stage hardware investment, and portfolio company support capabilities – including former National Security Innovation Network and National Security Innovation Capital programs – to provide comprehensive services for commercial partners across the spectrum of technology readiness levels. Together, these programs catalyze interest in the defense market and make it easier to access mentorship, networking, and funding opportunities. The DICE examples described above under LOE3 are all examples of the Commercial Operations team's work.

While DIU is headquartered in Silicon Valley, we have expanded its commercial outreach and lowered the barriers to entry via access points with American vendor submissions from across all 50 states. Our physical footprint is distributed in eight regions in key technology ecosystems around the country, including five DIU offices, regional representatives, and five OnRamp Hubs, all serving as DIU's "front door" to the DoD. Over one-third of DIU vendors on contract from June 2016 to September 2024 are first-time DoD contractor award recipients, representing 170 new solutions that the DoD can now access.

[10] P.L. 118-159. Servicemember Quality of Life Improvement and National Defense Authorization Act for Fiscal Year 2025. Sec. 216 "Modification to personnel management authority to attract experts in science, engineering, and certain other disciplines." https://www.congress.gov/bill/118th-congress/house-bill/5009/text

In addition to this physical presence, DIU has launched digital “onramp” tools and pathways to expand its outreach and lower barriers to entry. Examples include a "Digital Resource Guide" and a streamlined "Company Interest Intake" process. Partnering with DICE, DIU is also developing a Digital OnRamp platform to better connect commercial tech companies with the Department and DoD opportunities. After a successful December 2024 test involving 100 commercial and DoD users, with early contract wins for both commercial and DoD participants, DIU plans to roll out the platform in late summer 2025.

The Talent Portfolio is further developing a pipeline of skilled, entrepreneurial students, researchers, entrepreneurs, and DoD intrapreneurs to collaborate with the DoD to tackle real-world challenges. In FY 2024, nearly 1,400 students and non-traditional problem solvers participated in talent programs, addressing 311 unique challenges for mission partners. These programs partnered with 66 universities across 30 U.S. states, the District of Columbia, and Israel.

DIU further supports early-stage startups through its programming, including tools such as challenges and accelerators, to provide initial revenue, education on how to do business with the defense market, and connections with DoD mission partners for further partnership opportunities. Further catalyzing the defense technology ecosystem, in FY 2024, DIU mobilized 186 unique, early-stage companies from 31 states and the District of Columbia to participate in accelerator programs.

LOE 5: Allies and Partners. Fifth, DIU also works to realize the enormous potential of tech partnership with our allies and partners, primarily by partnering with the innovation organizations of key allies and partners and by helping those partners who do not yet have such organizations to develop one. Examples over the past year include work with India, Japan,

Singapore, and with the UK and Australia both through AUKUS and bilaterally, by launching joint challenges in critical areas of shared operational and strategic need and helping find new markets for our very best capabilities. DIU has also helped with the refinement or creation of defense innovation capabilities in multiple countries, including the UK, Australia, Japan, and Taiwan. Our strategy and engagements are aligned with the 2025 INDSG and focused primarily in the Indo-Pacific and European regions, as well as Israel and the United Arab Emirates. Since its inception in late 2023, the Global Partnerships team has started 13 information exchanges; hosted 7 convening events; signed 4 memorandums of understanding or memorandums of cooperation with India, AUKUS, Japan, and Singapore; placed a liaison officer in the UK; and launched 9 prize challenges with AUKUS, India, Singapore, and Japan. Through all of these actions, DIU focuses on delivering concrete impact for the warfighter and increasing interoperability - and therefore the ability to deliver strategic impact from our combined force - with key allies and partners. DIU's work in this space is also instrumental in reinforcing the critically important broader partnership with each of these nations.

Where we go from here.

While we are making significant strides, DIU, in partnership with Congress, the Administration, and the broader Department of Defense, have an opportunity and responsibility to continue to change the scale and speed at which we deliver innovative commercial solutions to warfighters, in line with the critical imperative facing the nation and consistent with Administration direction.[11] We have made strong progress, and are reaching a tipping point as a

[11] "Modernizing Defense Acquisitions and Spurring Innovation in the Defense Industrial Base." 9 April 2025. https://www.whitehouse.gov/presidential-actions/2025/04/modernizing-defense-acquisitions-and-spurring-innovation-in-the-defense-industrial-base/

nation in our ability to deliver technology with the focus, speed, and scale required. But we must do much, much more. Five specific areas where we must focus include:

First, we must reinforce and scale the progress that has been made at DIU to help DIU deliver as the national mission force and catalyze broader change across the Department. Reinforcing this success will both help DIU to deliver for the Department's strategic needs and will help to deliver the consistent demand signal the tech sector's founders and funders need to make the bets we need them to in the national security space.

Second, we need to scale the agile budget experiment from FY 2024 for DIU and expand on its success to the Services – the true engines of scale – with a similar expectation for transparency to what DIU shares with Congress today. We need to shift the dynamic between Congress and the Department, at least in the fast-moving area of critical technology, from programs of record to portfolios of record, at least for rapidly moving tech, because it is impossible to know two to three years in advance the exact piece of hardware or software you want to buy when it does not even exist yet.

Third, we need to continue to ensure that the defense innovation base is prepared to meet the resulting demand. While the most important thing we can do to help them is provide the consistent demand signal that allows them to bet successfully on scale in this space, we also need to help them evolve their capabilities to meet growing demand. DIU is working to ensure that our partners in the commercial tech sector are prepared to ramp up production from today's levels to the massive scale we require. This is one of the reasons DIU announced the Blue Manufacturing Initiative in April 2025, focused on pairing the very best hardware and software manufacturers in defense technology with the very best advanced manufacturing providers – who are located right here in the United States – to help both strategically critical industries to scale.

Fourth, we need to make it dramatically easier for the best commercial talent to serve, helping the Department access, grow, train, and retain a talent pool that can harness the best of the commercial tech sector.

Finally, and crucially, we as a Department will also need Congress' help in changing our collective culture surrounding risk. Together, we must be willing to take the right kinds of risks today – process risk, financial risk, and reputational risk, all of the kinds that the tech sector takes every day – to avoid taking unacceptable risk – risk to mission, risk to force, and strategic risk for our nation – due to our inability to meet the threat because we move too slow. This has implications for the way that we work inside the Department, and also for the way that we in DoD and Congress work together.

Conclusion

We are grateful for the continued commitment of this Congress to getting after these challenges and supporting DIU and our partners, so that we can lower barriers to innovation for commercial tech partners, evolve the Department's ability to work with them with the agility required, and together deliver capability with the focus, speed, and scale required to meet the strategic imperative. We look forward to continuing to work with our teammates across the Department, within our allies and partners, in Congress, and across the rapidly evolving tech sector to deliver the impact our warfighters need at the speed the threat demands. Thank you for your leadership, for your support of our efforts, and for your commitment to driving defense innovation forward at this critical moment for our nation.