

SPEED & SCALE

MANAGING DEFENSE TECHNOLOGY INNOVATION IN UKRAINE

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About the **report**

This report is part of a capstone project conducted within Columbia University's School of International and Public Affairs (SIPA). The research objectives were mandated by the Department of War (DoW) Defense Innovation Unit (DIU) and consequently executed by a team of graduate students under the guidance of an expert faculty advisor – Adjunct Professor David Victor Bonfili.

For more information about Columbia SIPA capstones, visit www.sipa.columbia.edu/sipa-education/capstone-workshops

About the **authors**

The authors are candidates in their final year of study for either a Master in International Affairs or Master in Public Administration degree at Columbia SIPA. They have varied backgrounds ranging from work in technology policy and foreign defense ministries to experience serving in the U.S. and European armed forces, in addition to their formal education.

The views and opinions expressed in this report are those of the individual authors and do not necessarily reflect the views or positions of Columbia University, the Department of War, or any affiliated entities.

Executive Summary

The war in Ukraine has driven one of the most consequential transformations in the development, fielding, and employment of battlefield technologies since the Second World War. This report examines Brave1, Ukraine's government-backed defense technology accelerator, and extracts lessons applicable to the United States.

Brave1 delivers defense technology to the front lines, without the bureaucracy of traditional procurement channels. It is an ecosystem connecting frontline units, manufacturers, government agencies, and private capital through a unified digital marketplace where units purchase equipment, leave performance reviews, and generate demand signals that flow directly back to producers. Procurement authority has been delegated to over 1,500 military units. On average, it takes no more than seven days for an order to be processed and the equipment delivered to the frontline.

Three features of this system are significant from a U.S. perspective. First, Brave1's accessibility depends on a deliberately permissive classification posture. Frontline users interact with the platform on personal phones to order equipment and submit feedback. This model is structurally incompatible with current U.S. classification practices. Second, battlefield data automatically generates procurement decisions, which closes the feedback loop between operator and manufacturer in near real-time. Third, Ukraine's limiting factor is not industrial capacity, but financing. Sixty percent of its manufacturing capacity sat idle in 2025 for want of contracts, revealing financing's primacy as a policy challenge.

The U.S. military has closely observed the war in Ukraine and sought to implement structural changes to its legacy procurement system. Various service-level efforts such as the U.S. Army's UAS Marketplace, the Joint Interagency Task Force (JIATF)-401, the Navy Rapid Capabilities Office, and the Marine Innovation Unit reflect genuine urgency, but have emerged in parallel to one another. As a result, the current U.S. system operates without top-down coordination, producing redundant platforms, fragmented vendor guidance, and funding that does not reach the tactical level.

This report recommends that the Defense Innovation Unit should seek to establish a single, integrated marketplace for all approved commercial-off-the-shelf (COTS) equipment, establish training guidelines for servicemembers so that individual operators can submit comprehensive and properly designated feedback to this marketplace, and implement aspects of Brave1's ePoints system to prioritize resources.

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Preface - The Battle Of Pokrovsk

The Russian campaign to capture the eastern Ukrainian city of Pokrovsk began in the summer of 2024. A strategically important transportation and logistics hub, it was the next city that lay ahead of the Russian Army and its bloody campaign to occupy the Donbas. Over the next eighteen months, the city became a crucial showdown. The Russian Army paid dearly: experts estimate that tens of thousands of Russian soldiers were killed and wounded.¹

At the same time, in response to Ukraine's success in institutional drone initiatives, the Russian Ministry of Defense stood up Rubikon, its own drone-centric unit initiative.² Rubikon was established as a drone warfare center of excellence, combining all UAV-related lines of effort under one organization: research and testing, TTP development, and training for hand-selected pilots. This elite unit of operators quickly grew, and today numbers around 5,000 personnel.³

Pokrovsk saw the first widespread deployment of Rubikon, which proved to be better trained, better equipped, and more innovative than the rank-and-file Russian brigades. Rubikon's effect was felt immediately. According to a drone operator in the Ukrainian Armed Forces, who was interviewed for this report, Rubikon matched Ukrainian capabilities.

Rubikon's operators had studied the tactics of Ukrainian air defense units. They correctly assessed that many of the Ukrainian-built jammers deployed to the front at that time were primarily optimized for the 2.4 a 5.8 GHz range (to align with the frequencies of the Russian Mavics) and in response, they began occupying the 3 GHz range. Rubikon continuously adapted their position on the EM spectrum based on rapid analyses of the varying levels of saturation on different bands - effectively rendering the lion's share of available Ukrainian EW jammers obsolete. The Ukrainian operator recalled, "we took a lot of casualties...and lost a lot of assets."

Recognizing that these sophisticated drones could create a sustained tactical advantage for the Russians, the operator's unit put an open-ended order into a relatively new Ukrainian online marketplace called Brave1, requesting assistance with these frequency-agile systems. Within a month, new broadband jammers were delivered to the frontlines at Pokrovsk. Brave1's tempo allowed the Ukrainian units to get inside the Rubikon's innovation loop and neutralize the advantage they'd generated. The battle demonstrates several key factors which make Brave1 successful on the ground. This report will examine these factors in depth.

¹ Center for Strategic and International Studies, "Russia's Grinding War in Ukraine," February 12, 2026. [csis.org](https://www.csis.org/analysis/russia-grinding-war-ukraine)

² Saratoga Foundation, "Crossing the Rubicon: Russia's Elite Drone Force and the Evolution of Unmanned Warfare in Ukraine," February 5, 2026. [saratoga-foundation.org](https://www.saratoga-foundation.org/)

³ Mark Krutov, "Inside Rubikon, The Elite Russian Drone Unit Wreaking Havoc On Ukraine's Troops," Radio Free Europe/Radio Liberty, September 17, 2025. [rferl.org](https://www.rferl.org/)

1. Introduction

This report codifies the findings of the 2026 Capstone Group, *Speed & Scale: Managing Defense Technology Innovation in Ukraine*, for the United States Department of War (DOW) Defense Innovation Unit (DIU). The war in Ukraine, now in its fifth year, instigated transformational changes in the conduct of large-scale ground combat operations. Ukraine's legacy acquisitions processes, in place before the advent of the full-scale invasion in 2022, were not structured to meet the war's new operational demands. This deficit spurred the introduction of new systems of procurement designed to outpace the rate of tactical adaptations made by the adversary.

As such, this report is an examination of innovations in the *processes* by which new technologies are being identified, fielded, and improved upon rather than an examination of innovations in the technology itself. Within this context, the Capstone Group specifically sought to describe Brave1, a Ukrainian government-backed defense innovation organization that facilitates a broad array of defense procurement needs, that evolved since 2022 to meet the demands of the modern battlefield. By focusing on processes and not platforms, the Capstone Group seeks to provide actionable insights and recommendations to the DIU, so that the U.S. military might adapt to emergent operational needs with the capacity to field novel technology at both speed and scale.

This report proceeds as follows. First, the report covers a brief review of the current war in Ukraine, how the war demonstrated pitfalls in Ukraine's legacy acquisitions process, and how these pitfalls, while differentiated in scope and structure in the United States, are the same pitfalls that the Secretary of War's Drone Dominance Program seeks to address. The report then notes a few items related to methodology and scope before moving on to a thorough analysis of Brave1 itself, specifically, its organizational structure, lines of effort, systems and platforms, marketing, outcomes, known challenges, and, critically, a segment on why it has worked so spectacularly. This leads directly into the penultimate section, an analysis of ongoing U.S. defense innovation initiatives across the Joint force and within the Services. The final section concludes the report and provides concrete recommendations for DIU to implement.

2. Background: Operational Context And Emerging Demand

Since Russia initiated its full-scale invasion of Ukraine in 2022, the nature of ground combat has evolved into a high-velocity, technology-driven contest defined by rapid iteration and continuous adaptation. The mass deployment of drones, advanced electronic warfare (EW) capabilities, and near-continuous ISR coverage has become the norm. In 2025 alone, Ukraine struck 820,000 targets with drones — accounting for over 80% of total strikes — using low-cost, rapidly deployable systems that serve as both strike weapons and real-time intelligence collection platforms. These technologies, coupled with integrated networks, have shortened the kill chain and transformed the battlefield into something faster, deadlier, and more technologically demanding than any prior conflict.

The drone proliferation also generated an unprecedented density of battlefield data from strike assessments, sensor feeds, and unit performance reports that had to be aggregated, analyzed, and acted upon in near real time. Ukraine addressed this through platforms like Delta, a grassroots C2 software system that evolved from a basic digital map into something approximating a combined, joint, all-domain command and control (CJADC2) capability. The ability to efficiently aggregate and route that data proved as operationally decisive as the drones themselves.

This dynamic carries direct implications for the U.S. military: as the Department of War moves to dramatically scale its UAS and counter-UAS investment under the Drone Dominance initiative, the capacity to aggregate performance data across services and route it back to manufacturers as actionable demand signals will determine whether that investment translates into battlefield advantage or bureaucratic accumulation.

The compressed operational lifecycle of military technology in this environment, where systems effective today may be obsolete within weeks, forced a fundamental shift from an acquisitions model that delivers stand-alone technologies to one that enables continuous iteration. Early in the war it became apparent that Ukraine's legacy acquisitions system could not meet that demand. Ukraine responded by radically decentralizing its defense industry: the number of private defense companies grew from roughly 50 before 2022 to over 900 today, and more than 1,500 military units gained authority to procure directly from manufacturers, bypassing centralized bureaucratic systems entirely. Capital followed. Investment in Ukrainian defense-tech startups tracked by Brave1 alone grew from \$5 million in 2023 to \$105 million in 2025.

The result is a system in which units submit operational feedback directly to manufacturers, who iterate on hardware and software and return updated equipment to the front within days — a cycle that has kept Ukraine competitive against a larger adversary. Brave1 can be understood as a system constructed precisely to address a procurement gap. In section IV, we will analyze its structure and functions in detail.

3. Methodology

The research team adopted a process-oriented methodological approach designed to examine defense innovation as a dynamic operational system rather than a static structure. The central analytical premise of this study is that the strategic value of Brave1 lies not primarily in its outputs, but in the mechanisms through which it identifies battlefield requirements, accelerates technological iteration, and integrates emerging capabilities into combat operations. Understanding these mechanisms required direct observation of the ecosystem through the perspectives of the actors operating within it in real time.

Accordingly, the research prioritized primary-source collection through structured interviews conducted across the Ukrainian defense innovation ecosystem and relevant U.S. defense innovation stakeholders. Rather than relying solely on formal organizational descriptions or procurement outcomes, the study focused on mapping the relationships, feedback loops, decision-making pathways, and institutional incentives that enable rapid adaptation under wartime conditions.

This interview-based approach was supplemented by a systematic review of secondary-source material, including Ukrainian government publications, Ministry of Digital Transformation documents, defense policy reporting, think-tank analyses, and open-source material related to procurement reform, battlefield adaptation, and defense technology scaling. Given the recency of Brave1 and the absence of substantial peer-reviewed academic literature on the platform, the research team placed particular emphasis on firsthand operational perspectives and contemporary policy documentation in order to construct an analytically grounded understanding of the ecosystem.

4. What Is ‘Brave1’?

4.1. Background

Brave1 defines itself as the “United Coordinational Platform for Defense Tech Powered by the government.” We have narrowed down its primary value proposition to three core functions:

1. The Brave1 platform acts as a marketplace that enables battalions to directly browse available weapons from producers, make orders, leave reviews, and submit real-time needs. It streamlines the procurement pipeline for smaller systems to days instead of weeks.

2. The Brave1 Platform offers grants to Ukrainian defense tech startups to help them build and scale their products, and facilitates weapons testing of these products at the frontline.

3. Brave1 acts as a critical convener for the defense industry – the organization holds major events and conferences both inside and outside of Ukraine to foster relationships across the defense tech ecosystem.

Brave1 did not emerge as a fully realized institutional structure. Its development followed a traceable trajectory rooted in the exigencies of the early invasion period. Ukrainians had been using drones in the Donbass region as early as 2016.⁴ When the full scale invasion broke out in 2022, soldiers at the unit level demonstrated the potential of cheap, commercial drones to carry out precision kinetic strikes along the frontline. Troops began sourcing and deploying off-the-shelf drones, like DJI Mavic quadcopters, and improvising capabilities that conventional military channels were slow to embrace. At the same time, grass-roots organizations like Come Back Alive, Army SOS, Kolo, or the Serhiy Prytula foundation participated in the rapid democratization of these drone systems within units, independent from government efforts.

In July 2022, Ukraine’s Ministry of Digital Transformation launched the Army of Drones initiative as a national strategy to accelerate the indigenous UAV production that was happening at the grassroots level and reduce the military’s dependency on foreign suppliers. As the program accelerated through late 2022, the Ministry recognized that they needed a new technological ecosystem, including communications links, ground control stations, and more to support drone warfare.

In early 2023, the Ministry of Digital Transformation established Brave1 as a platform to formally connect defense technology startups, capital providers, and end users within a coordinated ecosystem. Within the year, Brave1 issued its first wave of grants, distributing more than \$8 million USD to catalyze nascent industrial capacity.

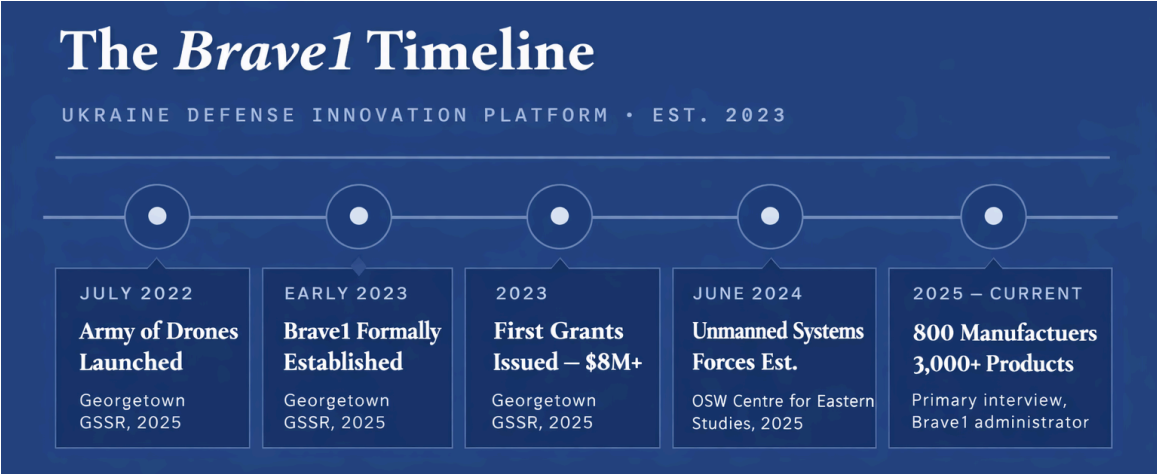
By June 2024, Brave1’s integration with frontline units had deepened sufficiently to prompt Ukraine to establish the Unmanned Systems Forces, a new and independent branch of its armed forces. It was the first such branch of its kind in the world.

⁴ After civilian provided drones in donbass: Fontanellaz, A. (2025). L’Armée ukrainienne: Une Histoire militaire et immédiate 1991-2015. Infolio CH-Gollion, p.233

As of November 2025, the program has funded over 540 projects and awarded the equivalent of 2 billion hryvnia (~\$50 million) in grants.⁵ According to a Brave1 program administrator consulted through the research team's primary data collection, the ecosystem now encompasses 800 active manufacturers and more than 3,000 defense products.

The trajectory from near-zero capacity in 2022 to one of the most dynamic defense innovation ecosystems in the world in under three years is itself analytically significant. The institutional mechanics behind that trajectory make Brave1 an appropriate analytical lens for generating recommendations relevant to DIU's mandate.

Figure 1: The Brave1 Timeline



4.2. Organizational Structure

Today, Brave1 is a cross-government initiative with input and oversight from multiple Ukrainian institutions, including the Ministry of Digital Transformation, Ministry of Defence, General Staff of the Armed Forces, National Security and Defense Council, Ministry of Strategic Industries, and Ministry of Economy.

The Ministry of Digital Transformation still holds the Brave1 program under its purview, but integration across the government has increased. The former Minister of Digital Transformation, Mikhaïlo Fedorov, was recently appointed Minister of Defense. Moreover, the General Staff of the Armed forces meets weekly with Brave1 leadership to discuss Brave1's demand signals and adjust point allocations for the Brave1 point system.

Brave1 has grown to approximately 200 personnel, and its internal structure includes teams organized around specific technology areas, product types, or operational domains. These teams work closely with military units to address domain-specific challenges and support the development and testing of new systems.

⁵ "Brave1: The Engine Behind Ukraine's Defence-Tech Community," Ukraine's Arms Monitor, November 15, 2025, ukrainesarmsmonitor.substack.com.

4.3. Stakeholders

As a civilian agency, Brave1 is a bridge that facilitates civil-military coordination in tech, procurement, and innovation. It sits at the center of diverse actors, from international partners to military units, from private investors to local manufacturers. Through our interviews, we have identified several key stakeholders whom the organization is designed to serve:

Stakeholder	Details
Ukrainian Defense Tech Companies and Developers	Brave1 works with defense tech companies and developers of all sizes, and supports their efforts in scaling by developing step-by-step guides for market entry. Companies have the ability to receive feedback from units testing the products purchased through Brave1.
Ukrainian Government: - Ministry of Defense - Ministry of Digital Transformation - Ministry of Economy	ePoint system used to communicate war time target priorities to top performing military units.
Military Units	While anyone who is Ukrainian can browse the Brave1 Market catalog, only soldiers are able to place purchases for products on Brave1 through the DELTA portal.
International Partners and Investors	Brave1 has recently announced the launch of an International Relations Department. It has already begun developing partnerships with European countries through Brave-France and Brave-Norway amongst others.

4.4. Brave1 Core Functions

Brave1's core functions were initially constrained to research and development for system prototypes submitted by manufacturers, but were later expanded to include the Brave1 Market and initiatives to facilitate investor-manufacturer relations. The table below provides an overview of Brave1's key capabilities and features, alongside a description of stakeholder engagement. This paper will also explore Brave1's three core functionalities in greater depth.

Core Functions of Brave1		
Capability / Feature	Description	Accessible To (Primary Stakeholders)
Defense Tech Marketplace		
Defense Tech Marketplace ("Brave1 Market")	An online marketplace where military units can browse and acquire innovations (UAVs, UGVs, EW systems, software, components, ammunition, etc.). Functions similar to an "Amazon for war." ⁶	Verified military units: browse & purchase Manufacturers: list products Administrators: manage catalogue
Combat Points: ePoints System	A rewards system where frontline units earn points (e.g., for verified mission outcomes) that can be redeemed for equipment on the marketplace. ⁷	Frontline military units earn & redeem points Brave1 administrators & Ministry stakeholders: configure parameters
Brave1 Dataroom (AI Training Environment)	A secure digital environment for training and testing AI models using battlefield data (visual/thermal datasets, etc.). Built with Palantir tech. ⁸	Ukrainian defence tech developers train & test AI (after security compliance) Brave1 / MoD manage access & data
Research & Development		
Testing Platform ("Test in Ukraine")	Infrastructure/system that allows Ukrainian and foreign defence tech (hardware & software) to be tested in realistic field conditions with military feedback loops. ⁹	Foreign & Ukrainian manufacturers: submit tech for testing Military units/test teams: conduct evaluations
Grants & Financial Support Programs	Funding mechanisms (grant competitions, priorities) to support prototype development, scaling, NATO codification, and battlefield-ready tech. ¹⁰	Defence tech developers / companies: apply for funding Government/finance committees: evaluate & award

⁶ Digital State. "Brave1 Market: Ukraine Launches a Military Innovations Marketplace." *Digital State* (Digitalstate.gov.ua), April 28, 2025. digitalstate.gov.ua.

⁷ Olha Kosharna, "Brave1 Launches New Grant Programme for Ukrainian Component Manufacturers," *Censor.NET*, December 4, 2025, censor.net.

⁸ "Ukraine's Ministry of Digital Transformation Launches Brave1 Dataroom to Test AI Models Using Frontline Data," *Ukrainska Pravda*, January 20, 2026, pravda.com.ua.

⁹ Cabinet of Ministers of Ukraine. "Ministry of Digital Transformation Launches a Platform for Testing Technologies of Global Defense-Tech Companies." *Cabinet of Ministers of Ukraine*, July 17, 2025. kmu.gov.ua.

¹⁰ "Brave1 Backs the Future of Ukrainian Defense Tech." *Digital State* (Digitalstate.gov.ua), December 4, 2025. digitalstate.gov.ua.

Partnerships & Engagement		
Project Registration and Networking Hub	A central registry where innovators, startups, and developers can register defence tech solutions and connect with military and investor stakeholders. ¹¹	Tech developers & innovators: register projects Investors, partners, government reviewers: access registry for collaboration
Codification Support (NATO Standards)	Assistance programme to codify prototypes and systems to NATO standards, easing broader compatibility and procurement readiness. ¹²	Defence manufacturers & developers: codification support Military acquisition offices: use codified products for procurement
Partnership & Investor Engagement	Events, networking, hackathons, demo days, and international partner integration to attract investment, expertise, and strategic collaboration.	International partners & investors; Government/Brave1 leadership; Innovation ecosystem stakeholders

4.5. Facilitating Defense Tech Research & Development

Brave1 supports Ukrainian defense tech companies' R&D through grants, testing, and scaling, in addition to facilitating market access to new manufacturers.

Brave1's Grant Program

The grant program is a joint effort by the Ministry of Digital Transformation, whose Supervisory Board of the Innovation Development Fund finances the program, and the Ministry of Defense, who is involved in final decisions on grant deliveries and testing. The General Staff of the Armed Forces of Ukraine is also involved at a strategic level, defining the key technology areas for which Brave1 issues funding based on its understanding of battlefield needs.¹³ As it stands, the General Staff has identified around 70 priorities, the most important of which are unmanned aerial vehicles (UAVs), robotic and remotely controlled systems, and electronic warfare (EW) and counter-EW systems. Moreover, under the new 80/20 Ministry of Defense procurement model, Brave1's priority is set on allocating 80% of its grants for fielding and funding battlefield-tested technologies, with a 20% freedom of manoeuvre margin reserved for the funding and development of cutting-edge technologies.

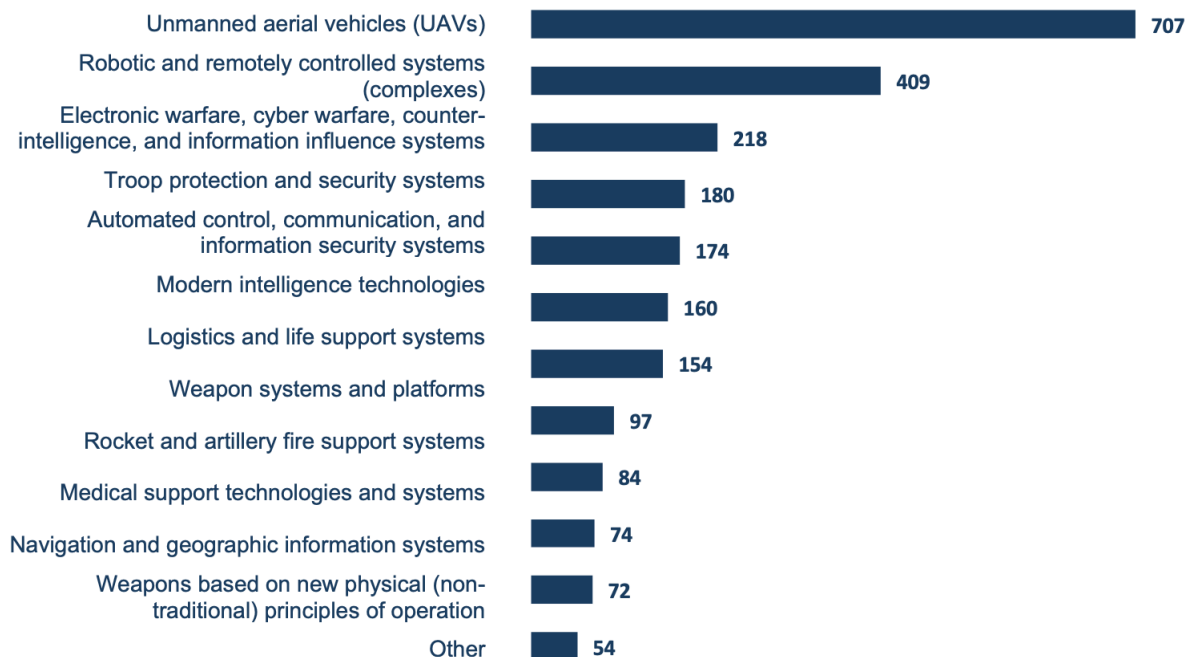
Figure 2: Brave1 R&D Project Applications in 2024¹⁴

¹¹ Brave1 Defense Tech Cluster. "Brave1." Brave1.gov.ua. Accessed April 29, 2026. brave1.gov.ua.

¹² Resilience Media. "Announcing Brave1 Defence Tech Innovations Forum 2025." *Resilience Media*, January 3, 2025. resiliencemedia.co.

¹³ Zrobya Smart Force, Ministry of Defense of Ukraine. Brave1 Grant Program. www.zbroya.gov.ua

¹⁴ Bilousova, O; Omelchenko, E; Makarchuk, M; Mylovanov, T. (2024). *Ukraine's Drones Industry: Investments and product innovations*. KSE Institute, Brave1.



The grant process begins with a qualitative review of applications submitted by manufacturers. Next, a panel of defense experts from across the ministries and bodies involved in Brave1 rate applications and decide whether to issue initial grant agreements with the manufacturers, based on the following characteristics:¹⁵

- Innovation (novelty)
- Technical level (complexity)
- Technology Readiness Level (maturity)
- Scalability potential

The grants dispensed by Brave1 have consistently allowed for increases in Technology Readiness Level (TRL) maturity across systems submitted to the platform, and have covered a range of products across the market. So far, the grants have been remarkably successful in this regard. One senior executive at Brave1 stated that “87 percent of all the applications that got grants from us managed to move at least one TRL higher with the funds that they received.”

In 2024, the platform had awarded more than \$5 million worth of grants across 329 systems, covering machinery and equipment needs, goods for raw materials, and salaries.¹⁶ In 2025, grant allocation jumped by more than 500 percent. Brave1 handed out \$25.6 million in grants across 600 projects, with individual grants valued anywhere between \$5,000 to \$180,000.¹⁷

¹⁵ Zrobya Smart Force, Ministry of Defense of Ukraine. Brave1 Grant Program. www.zbroya.gov.ua

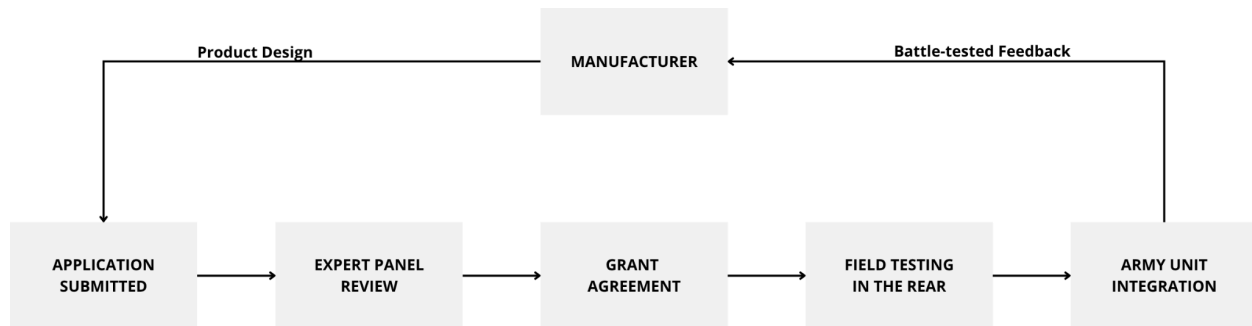
¹⁶ Bilousova, O; Omelchenko, E; Makarchuk, M; Mylovanov, T. (2024). *Ukraine's Drones Industry: Investments and product innovations*. KSE Institute, Brave1.

¹⁷ Savchii, A; Schönborn, F. (2026). *Ukraine's defense tech industry: By the numbers*. Snake Island Institute.

Brave1's Weapons Testing

Once a company has received a grant from Brave1, they can become eligible to test their technology in both simulated and real warfighting environments.

Figure 3: The Brave1 Process From Product Approval to Battle-Tested Feedback



Accepted programs are offered grant agreements and the products are later tested in rear areas to begin with. These bring together teams of Brave1 experts, who partner with entrepreneurs, government investors, and technical experts to conduct the field testing. In turn, products whose results have been encouraging can be assigned to specific army units whose experience, culture, and current needs best match the capabilities and nature of the respective system. Of all programs benefiting from a Brave1 grant, as few as 25% make it to the army integration phase.

4.6. The Brave1 Market

The Brave1 Market is the innovation for which the organization has received the most publicity. There is no historical parallel to what Ukraine has done: connecting military units, manufacturers, and government actors across an online system with thousands of products, real-time gamified leaderboards, and instant producer-to-end-user feedback loops.

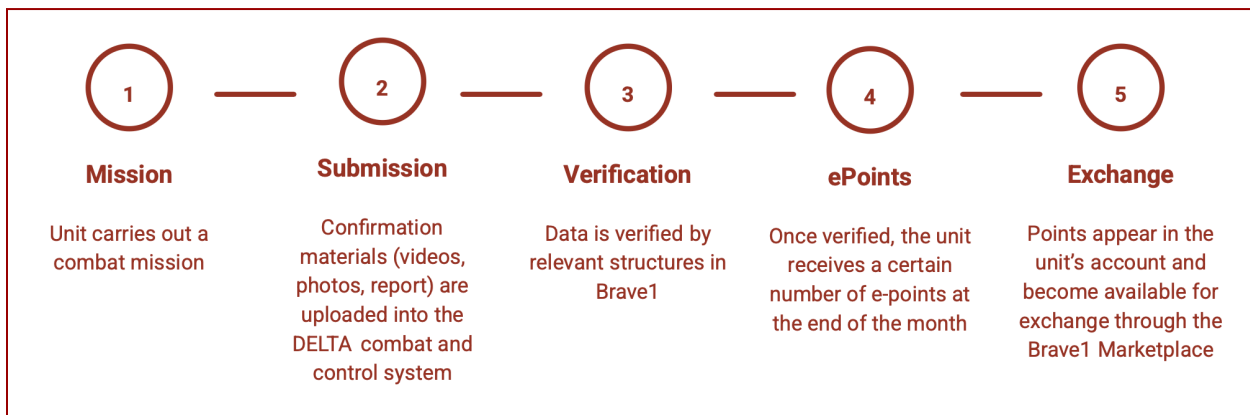
Today, the Brave1 Market connects approximately 800 manufacturers across more than 3,000 products. It allows military units to purchase equipment directly from producers. Critically, the platform includes pricing transparency and user-generated reviews from military personnel, making it more difficult for manufacturers to misrepresent product performance. This structure creates competitive pressure among suppliers to propose optimal systems on the market, and the system's transparency acts as a bulwark against corruption.

Using the e-points system, Brave1 has also been able to use its marketplace as a way to efficiently collect and manage battlefield data. The primary vehicle that Brave1 uses to aggregate frontline battle data is its ePoints System, which was introduced in 2025. The

philosophy behind the system is simple: Every FPV drone contains a camera, and each camera records valuable information on successful kinetic strikes. In order to incentivize soldiers to send Brave1 the telemetry from their drone operations, Brave1 offers “points” to units who can produce video evidence of confirmed kills. Units are then able to use their points to purchase weapons of their choice on the Brave1 Market. Approximately 400 units participate in the e-points system, with the top 50 units accounting for around 70% of all recorded strikes.

The information that units send to Brave1 is compiled alongside open-source intelligence by analytical teams sometimes referred to as “mathematicians of war.” These inputs then inform resource allocation decisions at high levels within the Ministry of Defense. Since the launch of this system, military units have purchased goods worth over 8.5 billion Ukrainian hryvnia using ePoints, equivalent to nearly 195 million USD.

Figure 4: The Brave1 ePoints System for Procurement¹⁸



A related platform, DOT-Chain, provides a more formal procurement pathway¹⁹. Under this system, military units can initiate purchases while the Ministry of Defence manages documentation and delivery. Compared to the Brave1 Market, DOT-Chain applies stricter standards and is more closely tied to formal procurement processes. Notably, electronic points can be used for purchases on the Brave1 Market, but not on DOT-Chain. Together, these systems provide mechanisms for connecting operational demand with suppliers and for allocating resources based on observed battlefield outcomes.

4.7. Partnerships & Engagement

¹⁸ Olena Kryzhanivska, *Defence Procurement in Ukraine: Key Lessons for Canadians and Allies*, Canadian Global Affairs Institute (April 2026). media.licdn.com.

¹⁹ DOT-Chain is integrated with the Ukrainian military's “Army+” application, which is accessible only to military personnel. Within this system, users at the lowest levels (including individual soldiers) can submit reviews for platforms and equipment, regardless of whether they directly procured them or used them operationally. By contrast, feedback within the Brave1 Market is generally limited to items that have been formally purchased or are available within the marketplace, resulting in a more controlled feedback environment. (Interview with Viktoriia Honcharuk)

Capital Modernization

Attracting international investment for Ukrainian defense companies has become a growing focus for Brave1. In early 2026, Brave1 hosted a series of Defense Tech Demo Days through an American Roadshow Event aimed at connecting international investors to partner with Ukraine's defense companies. Several members of our team attended these Demo Days hosted in New York City and Washington, D.C., and were able to hear the pitches to investors first hand. The first investments, partnerships, and pilot agreements are expected to emerge by June 2026.²⁰

Brave1 also administers technology grant programs funded by government entities. In 2025, the European Union funded the EU4UA Defense Tech project, providing nearly 4 million USD in funding to accelerate the development of technological innovations.²¹ The program was implemented by Brave1 with the help of the Better Regulation Delivery Office (BRDO), with support from the EU. The initial round of funding focused on high-speed interceptors and radar systems.

Finally, within Ukraine Brave1 serves as a major convening body for the defense tech ecosystem. The organization brings together manufacturers, investors, military end-users, and government officials to forge relationships and accelerate the translation of innovation into battlefield capability. Its events function as forums where global investors, military leaders, startups, and innovators converge to showcase battle-tested defense and dual-use technologies. Just two years ago, Brave1 events drew 100–200 participants. By contrast, their most recent flagship event in Ukraine, Defense Tech Valley, attracted more than 5,000 people from 50 countries and over 230 Ukrainian and international companies.

Capital Inflows

Private capital inflows (both domestic and international) through the Brave1 platform have accelerated sharply in the past several years. In 2023, Ukrainian defense startups raised about \$5 million in private capital. That figure rose to more than \$40 million in 2024, then to more than \$105 million in 2025, with over fifty companies securing funding in that year alone.²² Typical pre-seed and seed checks range from \$200,000 to \$400,000 at the low end, up to \$1–1.5 million at the higher end, while 2025 saw investors begin backing a new tier of \$2.5–5 million rounds, indicating that some companies have moved beyond proof of concept toward scaling battlefield-ready products.²³

Inflows of foreign capital have been particularly notable. At the Brave1 Defense Tech Valley 2025 summit in Lviv, NUNC Capital of the Netherlands committed €20 million to a

²⁰ Resilience Media. "Brave1 Packs Rooms in the U.S. with Its Ukraine Defence Tech Roadshow." *Resilience Media*, March 23, 2026. resiliencemedia.co.

²¹ European External Action Service. "EU4UA Defence Tech: EU and Ukraine Launch New €3.3 Million BRAVE1 Grant Programme." *European External Action Service*, December 1, 2025. eeas.europa.eu.

²² Ukrainian defence tech startups raised \$105 million USD in 2025. Resilience Media. January 5, 2026. resiliencemedia.co

²³ Ukraine secures over \$100M in defense tech investment at Brave1 Defense Tech Valley 2025. Kyiv Post. September 19, 2025. kyivpost.com

venture-building initiative, Germany-Luxembourg fund Verne Capital pledged up to €25 million into Ukrainian defense and cybersecurity companies, and Swedish fund Varangians announced a large-scale entry with an initial closed deal.²⁴

4.8. Known Challenges

Production vs. Demand

One of the more significant findings from the team's primary research into the ways capital and assets flow into and out of the defense innovation ecosystem (not just Brave1, but the ecosystem as a whole) concerns the nature of Ukraine's production constraint. Contrary to assumptions that might naturally follow from the scale of Ukraine's manufacturing ambitions, the binding constraint on drone production is not industrial capacity, but financing. The manufacturing capacity exists across Ukraine's 800 active producers to produce substantially more than the system can currently finance. This reframes the capital question in a manner directly relevant to policy design: the pressing lever is pipeline architecture rather than investment in production capacity per se. Ihor Fedirko, CEO of the Ukrainian Council of Defence Industry, wrote that in 2025, "capacity was estimated at USD 35B, while expected procurement was USD 12-12.5B - meaning up to ~60% of capacity remains uncontracted...The direction is right, but serial production needs predictable loading across a wider product range. Controlled export is the response to this gap."²⁵

The required factories, engineers, tooling, and supply chains all exist, but they can't run unless someone signs purchase contracts that guarantee revenue. Capacity without contracts translates to idle factories. Further, those contracts need to be stable. Stable, multi-year demand across varied product lines (drones, missiles, EW systems, etc.) is the missing link that would allow factories to invest and scale from an informed standpoint. Fedirko's point about controlled exports essentially argues that allowing companies to sell part of their output abroad (when total output exceeds what domestic funding can afford to purchase) would inject foreign investment into the economy, provide long-term contracts, lower unit costs, and ultimately increase total wartime output.

Capital Outflows

Despite the capital inflow surge, significant structural frictions still constrain capital recycling and outflow management. For most of the conflict, the ban on arms exports from Ukraine severely limited the scalability of production and international revenue potential for companies operating solely within Ukraine. Without a clear scaling model, investor interest declined and valuations were suppressed.²⁶ This export constraint pushed capital offshore: many Ukrainian defense

²⁴ Why global investors are pouring millions into Ukraine's combat-tested defense tech. UNITED24 Media. December 17, 2025. united24media.com

²⁵ Fedirko, Ihor. (2025, January 2). *2025: how did Ukraine's defence industry change over the year?* [LinkedIn post]. LinkedIn. [linkedin.com](https://www.linkedin.com)

²⁶ M&A in Ukraine's defence sector: battlefield innovation meets investment reality. Deloitte Ukraine. November 21, 2025. [deloitte.com](https://www.deloitte.com)

manufacturers sought to establish foreign branches and production facilities, which, while enabling access to external capital, created concerns about IP leakage and capital being structured outside Ukrainian jurisdiction.²⁷ The Atlantic Council has flagged this explicitly, noting that export barriers force many firms into joint ventures or licensing arrangements that often strip away their IP protections, and some companies that incorporated outside Ukraine encountered problems related to unfair IP structuring.²⁸

On the macro side, restrictions on the repatriation of proceeds from nonresident government debt redemptions were introduced in April 2023 to contain foreign exchange reserve outflows,²⁹ and capital control regulations more broadly continue to evolve in ways that create friction for foreign investors seeking to repatriate returns. A significant share of investment also happens in stealth mode, as manufacturers are concerned about their production facilities and don't want to attract attention from Russian forces,⁴ meaning the true scale of capital deployment remains partially opaque.

Emerging Reforms and the Path to Capital Ecosystem Maturity

Ukraine is actively legislating to normalize capital flows in both directions. In August 2025, the Verkhovna Rada passed a law introducing the "Defence City" special legal framework to support defense manufacturers, aiming to reduce regulatory and tax burdens and eliminate non-transparent business practices in the sector.³⁰ On the export side, Ukraine issued its first export permits for controlled military goods in early February 2026, and President Zelenskyy announced plans to establish ten Ukrainian defense export centers across Europe, enabling Ukrainian systems — especially drones, sensors, and electronic warfare tools — to enter European markets directly.³¹ New legislation planned for 2025–2026 will also introduce investor-friendly legal tools into Ukrainian law, and together with programs like Diia City and Brave1, this should make it easier for Ukrainian startups to raise money inside the country rather than abroad, with more M&A deals expected to close under Ukrainian jurisdiction.³² Nevertheless, the Council on Foreign Relations cautions that the limiting factors are not creativity, capacity, or talent, but capital, certification, and integration into European and NATO procurement ecosystems. Ukraine has the engineers and battle-tested products, but lacks the industrial scaffolding to plug into Western supply chains at scale.³³ Looking ahead, industry

²⁷ Ukraine's defense tech sector must guard against innovation drain. Atlantic Council. October 9, 2025. atlanticcouncil.org

²⁸ Ukraine. U.S. Department of State, 2024 Investment Climate Statements. January 4, 2025. state.gov

²⁹ Ukraine's defense tech boom: \$129M raised in 2025, 2x growth over 2024. UNITED24 Media. February 6, 2026. united24media.com

³⁰ M&A in Ukraine's defence sector: battlefield innovation meets investment reality. Deloitte Ukraine. November 21, 2025. deloitte.com

³¹ Ukrainian defense tech companies must prepare for export opportunities. Atlantic Council. February 18, 2026. atlanticcouncil.org

³² Why global investors are pouring millions into Ukraine's combat-tested defense tech. UNITED24 Media. December 17, 2025. united24media.com

³³ Securing Ukraine's future in Europe: Ukraine's defense industrial base. Council on Foreign Relations. February 24, 2026. cfr.org

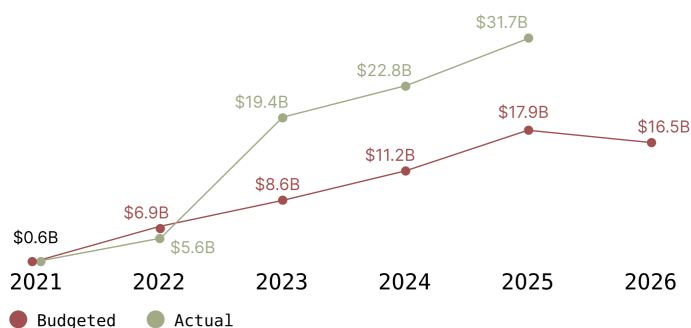
observers anticipate Ukraine's first \$50+ million Series B round as proof that the ecosystem can absorb and recycle true growth capital, not just early-stage funding.³⁴

Brave1's capital structure is also notable for the degree to which it is self-correcting. When hundreds of manufacturers can observe each other's pricing and capability offerings on a shared marketplace, and when the military units procuring from that marketplace can leave performance reviews that are visible to all subsequent buyers, competition and accountability are embedded directly into the procurement architecture, without requiring external regulatory imposition. The market mechanism, in this design, is not incidental to the system; it is a structural feature of how the system maintains quality and drives efficiency over time.

Funding

As Brave1 functions exclusively through the provision of grants, it does not collect any interests or returns on investment. It is entirely dependent on the budget it receives from the government to execute its services, which remains a critical chokepoint today.

Figure 5: Budget spending on Systems Development and Procurement³⁵



Every year since 2023, the actual spending on defense procurement and technology development has surpassed the allocated budget. This gap reveals the weak financial basis of Brave1's grant program and its increasingly unsustainable dependence on fluctuations in Ukraine's international support.³⁶

In light of these limited resources, procurement has been optimised through the ePoints system to ensure finite resources are distributed to the best performing units. ePoints are matched in cash value by a special fund that was created specifically to cover those purchases. This system does afford Brave1 with agency in shaping both the market and the battlefield simultaneously: by tweaking grant incentives at the R&D level, and by manipulating the ePoints value of certain types of Russian targets, Brave1 can create manufacturing incentives for

³⁴ Ibid.

³⁵ Savchii, A; Schönborn, F. (2026). *Ukraine's defense tech industry: By the numbers*. Snake Island Institute.

³⁶ Paillé, P; Eken, M; Kenchington, T; Aubert, B. (2025). From policy to victory: Recommendations to Ukraine for harnessing defence technology. RAND Europe.

systems in demand, and likewise influence tactical decisions from military units. At the time of writing, tactical evacuation (TACEVAC) conducted by UGVs reward units with more ePoints. This constitutes a clear example of tactical signalling through the incentives of the Brave1 Market.

This creates an inevitable disparity of access for lower performing units, and the general lack of funding for Brave1 overall, has perpetuated informal networks of funding at the brigade (and later at the corps) levels. Units frequently send officers abroad to secure investment opportunities and acquire systems outside of the Brave1 or government channels. This work is typically carried out by international cooperation sections, which report to the corps headquarters.

Battlefield Tempo Outpaces Centralized Procurement

While the Ukrainian ecosystem in general has developed a great capacity for speed in innovation, as analysed above, Brave1 on its own has remained incapable of fully adapting to the rate of ground developments. It remains a reactive bureaucracy, and similar patterns of shortcoming observed at the outset of the full invasion remain true today; as UAVs were introduced into official procurement systems about a year after their widespread use by units, so has Brave1 been slow to introduce UGVs into its catalogues despite their widespread emergence three years into the war.

Brave1 is also hindered by its nature as a civilian agency. While it has undeniably fast feedback systems with which to analyze efficiency of equipment on the battlefield, its technological priorities remain mandated by the directives of the General Staff of the Armed Forces, whose understanding of immediate needs is limited by perspective that is removed from frontline operations.

As a result, Ukrainian military units have their own procurement systems and work directly with producers – mostly from within Ukraine. As such, even with Brave1, a vast majority of systems are procured independently at echelons at the corps level and below today.

Efficiency remains the highest priority for Ukrainian units on the frontlines. Rapid changes on the battlefield don't allow for back-and-forth engagement with manufacturers. Despite Brave1 and the relative speed of procurement and innovation in Ukraine, systems delivered to frontline units are often adapted in-house to address immediate tactical needs.

This phenomenon has become particularly prevalent. Decentralized workshops have usually been organized at the company level, with R&D platoons capable of repairing and tweaking the systems they receive. In 2025, the 3rd assault brigade saw the emergence of an R&D company in the 21st “Kraken” Regiment, who designed and launched two products of its own in the span of 4 months. This has implications over debates in the U.S. regarding right-to-repair. In Ukraine, grassroots maintenance and improvised engineering keeps units in the fight.

4.9. The Success of an Ecosystem

The Ukrainian approach to procurement, innovation, and scaling is not centralized at the top around massive government initiatives. Rather, the system is sustained through a large, often informal, and vastly decentralized ecosystem that works around the challenges identified above.

Despite the myth surrounding Brave1, it is not a one-stop-shop for Ukrainian military units. Brave1 benefits from growing public visibility internationally, but this perception does not reflect reality on the ground. For western analysis, it is crucial to evaluate Brave1 within the framework of these networks and grass-roots initiatives which keep the process functioning at lower echelons.

5. Why Brave1 Works

5.1. The Feedback to Procurement Loop

Four years into the war, constant iteration and agility between the Ukrainian government and its military is an existential necessity. Deliberate choices over the classification structure of the marketplace has enabled the success of the feedback to procurement cycle.

The Brave1 Market can be accessed by any Ukrainian citizen, allowing anyone who has verified their identity to browse the public product catalogue. At the second level of access, municipalities, charities who provide direct support for supplying the military units are granted procurement power, and access to the public and closed product catalogue. At the full level of access, military units who would like to review the full product specifications directly from manufacturers are able to gain access to the private product catalogue, after verifying their identity using the DELTA system. This also allows them the power to procure products directly from DOT-chain.

Audience	Access Level & Procurement Power
Ukrainian Citizens (Citizenship verification required)	Access to the marketplace & public product catalogue <i>No procurement power</i>
Ukrainian Municipalities & Charities (verification required)	Access to the marketplace's public & closed product catalogue <i>Brave1 Market procurement power</i>
Military Units (DELTA ID verification required)	Full access to view full product information from manufacturers across the product catalogue, and can access DOT-chain products <i>Brave1 Market and DOT-chain procurement power</i>

The decision over classification involves a deliberate tradeoff between operational security and the speed of innovation, and Brave1's success thus far supports the contention that the speed of innovation is more important than operational security along the line of contact between Russia and Ukraine.

The rapid pace of innovation during the active war has fostered an environment where traditional procurement systems cannot keep up with the pace of new technologies. In an effort to address this critical gap, Ukraine's Ministry of Defense is taking steps to overhaul the country's drone procurement process. As of March 2026, the formerly manual process of

submitting procurement requests for drones has been automated, and will be generated entirely from battlefield data.³⁷ This step represents an “automated connection between the battlefield performance and supply decisions.”³⁸

Critically, this new process is a key mechanism that has enabled feedback driven decisionmaking, where data generated by the battlefield drives demand. Increasing drone effectiveness is incentivized by increased demand, a predictable innovation cycle that will continue putting pressure on manufacturers to innovate as battlefield statistics inform drone needs. Brave1, which collects market data, aids in the statistical measurements that will now be used in procurement decision-making processes. Brave1’s market data, which shows the existing demand of military units, paired with Ukraine’s ePoints statistics, which reveal asset effectiveness in the battlefield, will inform the rating to be used by the country’s Defense Procurement Agency as they decide which drones to purchase.

This change follows the Ukrainian MoD’s simplification of the weapons codification process to accelerate procurement.³⁹ This change, which removes the codification requirement necessitating confirmation of “urgent need” for arms and military equipment, intends to shorten the timeline from development to delivery to the troops. Allowing products to undergo codification regardless of procurement plan accelerates technological development. This is achieved through a simplification of the purchasing processes and streamlining ammunition testing procedures.⁴⁰

5.2. Feedback Mechanisms

In Ukraine, where innovation lives on the frontline, it can take less than 3 months for the enemy to adopt a new technology after its first use in the war. This creates a constant need for new solutions, rapid delivery to the frontline, and effective feedback collection mechanisms for manufacturers and defense companies to contextualize innovation requests.

One critical element of feedback collection is through the ePoints system detailed in section IV of this report. Through the Brave1 Market, where drones are bought by military units, teams compete under the Army of Drones⁴¹ bonus system, where the units earn points⁴² in return for successes in damaging enemy targets. The footage from successful drone strikes and

³⁷ Oleksii Tucha, “How the Ministry of Defence’s New Drone Procurement Approach Will Work: Explanation from Mykhailo Fedorov,” *Defender Media*, March 10, 2026, thedefender.media.

³⁸ Artem Moroz, “You Probably Missed the Most Important Defense Reform Ukraine Just Announced,” LinkedIn, March 16, 2026, [linkedin.com](https://www.linkedin.com).

³⁹ Oleksii Tucha, “The Ministry of Defence Has Simplified the Arms Codification to Speed Up Procurement,” *Defender Media*, March 2, 2026, thedefender.media.

⁴⁰ Mykhailo Fedorov, “Міноборони змінює підхід до кодифікації та пришвидшує закупівлі зброї для армії” [“Ministry of Defence Changes Its Approach to Codification and Accelerates Weapons Procurement for the Army”], Telegram, @zedigital, March 2, 2026, t.me.

⁴¹ Ukrainian World Congress, “Army of Drones,” ukrainianworldcongress.org.

⁴² BFBS Forces News, “Ukraine’s Amazon for War: Inside the Marketplace Built for the Military,” YouTube video, January 20, 2026, youtube.com.

destruction is received and verified by Brave1, which then issues points to the units. According to the Ministry of Defense of Ukraine, over 800,000⁴³ video-confirmed strikes were recorded in 2025. This system provides a competitive advantage in the procurement ecosystem under wartime conditions, enabling testing at scale and feedback to drive the future procurement decisions of military units once the efficacy of a particular offering on the Marketplace is realized.

The value of the points assignment for each target is driven by the country's military strategy at that moment, reflecting a changing assessment architecture that enables the decentralized military unit structure to carry out the military's objectives over time. The Brave1 Market is a key driver for helping soldiers to understand how they can be most effective on the frontline. It is more than a centralized purchasing mechanism, it is a critical method of communication between general staff and frontline units and a way for commanders to prioritize targets similar to a High-Payoff Target List (HPTL). The same incentive structure is also true for defense companies, who will receive a larger volume of orders for their product if their solution performs well on the battlefield.

Brave1 Market worked to deploy a new feature to help frontline soldiers make purchasing decisions by building a new comment feature⁴⁴ in which operators can post public reviews about equipment performance. Critically, this allows manufacturers who list their products on the Brave1 Market to receive direct feedback from users about the effectiveness of their products.

We learned in our interviews that Brave1 employs their own capability-specific experts who travel to the frontline to collect technology performance information. They speak with the soldiers on the frontline who inform them of their technological needs, which is then communicated to the Brave1 network of defense companies to provide context on existing bottlenecks. In speaking with Brave1 representatives, we also learned about informal feedback mechanisms that exist, in which soldiers call to request new technologies, although further research is needed into this collection process.

5.3. Leveraging the Feedback Mechanism

The frontline feedback loop born out of Ukrainian necessity to procure the most technologically advanced weapons has revealed opportunities for the defense sector beyond the battlefield. A key example of this is the opportunity for companies to deploy their technology for immediate feedback in high-intensity environments, allowing them to receive immediate optimization

⁴³ Mykhailo Fedorov, "Army of Drones Bonus' Program Delivers Results: Nearly 820,000 Russian Targets Hit in 2025, Says Mykhailo Fedorov," Ministry of Defence of Ukraine, January 26, 2026, mod.gov.ua.

⁴⁴ Sofie Cacoyannis, "Inside the Military Marketplace Helping Ukraine to Replenish Its Frontline More Quickly," *Forces News*, January 20, 2026, forcesnews.com.

opportunities directly from Ukrainian military personnel. This has been made possible through “Test in Ukraine,” a program launched by Brave1 in June of 2025.⁴⁵

Defense technology companies can apply to have their systems tested on the battlefield directly through the Brave1 website.⁴⁶ The program enables foreign companies two pathways to participate and receive structured feedback and data collected from the frontline, allowing them immediate opportunities to improve their product.⁴⁷ The first is through independent testing, where companies gain direct access to field environments and frontline users. The second is delegated testing, where Brave1 supports in the coordination of testing trials. Through this process, companies receive reports, performance analytics and feedback from end-users.

“Test in Ukraine” has opened the battlefield in Ukraine to foreign allies, allowing Brave1 to deliver on its mission of positioning Ukraine as a global defense technology. For a country facing financial constraints and threat from evolving technologies, this program offers a creative solution, where frontline feedback for systems testing is leveraged to fill the financial and technical supply gap that the country has faced.

The use of battlefield data as a pipeline for partnership continues to scale in Ukraine, with the Ukrainian Minister of Defense announcing a new initiative in early March of 2026 that would provide the country’s international partners and defense companies with access to combat data for autonomous defense system development.⁴⁸ The real-world training data will be accessible by companies building autonomous defense systems or target recognition software. In return for data to train these AI systems, Ukraine’s frontline benefits from the rapid development of autonomous capabilities of its own.

⁴⁵ Olena Kryzhanivska, “Brave1: The Engine Behind Ukraine’s Defence-Tech Community,” *Ukraine’s Arms Monitor*(Substack), November 15, 2025, ukrainesarmsmonitor.substack.com.

⁴⁶ Brave1, “Test in Ukraine,” accessed April 6, 2026, testinukraine.brave1.tech.

⁴⁷ Digital State UA, “Ukraine Becomes Real-Time Lab for Global Military Innovation,” Ministry of Digital Transformation of Ukraine, July 28, 2025, digitalstate.gov.ua.

⁴⁸ Katie Livingstone, “Ukraine Opens Battlefield AI Data to Allies in World-First Move,” *Military Times*, March 13, 2026, militarytimes.com.

6. Current U.S. Innovation Efforts

Within the United States across the military services, there is a clear recognition that traditional acquisition processes are too slow and rigid to keep pace with the rapidly evolving threats observed in Ukraine, particularly regarding drones. In response, each branch has independently stood up or augmented organizations and mechanisms designed to close this gap: Army Portfolio Acquisition Executive (PAE) Aviation launched the UAS Marketplace, the Navy created the Rapid Capabilities Office, the Marine Corps established the Marine Innovation Unit (and directed commercial UAS vendors with gear in the TRL 3-6 range to apply for program of record approval via the Marine Corps Warfighting Laboratory), and the Department of War and various federal agencies established the Joint Interagency Task Force (JIATF)-401.

While each of these efforts reflects urgency and creative thinking at the service level, they appear to have emerged in parallel rather than in concert. There is little evidence of coordinated direction from the Department of War to deconflict roles or eliminate redundancies. The result is a collection of well-intentioned but potentially duplicative and stovepiped efforts, each seeking to address the same fundamental problem of acquisition speed and scale, but doing so in isolation. The following sections provide brief context on the group's findings on each of the innovation organizations examined.

6.1. U.S. Army UAS Marketplace

PAE Aviation of the U.S. Army launched the Unmanned Aircraft Systems Marketplace in March 2026, a digital storefront designed to get trusted, cutting-edge drone technology into the hands of soldiers faster than before. Developed with Amazon Web Services and the Army Enterprise Cloud Management Agency, it is a digital one-stop shop that will allow Army units, government partners, and allied nations to efficiently procure vetted UAS solutions.

Similar to Brave1, the digital storefront features tools that allow users to compare system functionalities, provide direct feedback, and place orders.⁴⁹ Soldiers are able to rate their experience from 1-5 stars, and their feedback is instantly sent to the vendor, providing industry partners with demand signals from the force. Interested vendors can respond to a commercial solution opening (CSO) which links them to the UAS marketplace where they can enter their product, and once it is approved by the Army, begin selling directly to units. There are currently 30 systems on the marketplace which are all derived from programs under the project management office for UAS, but the Army soon plans to add drones from the Defense Contract Management Agency's Blue List along with the winners of the previous Gauntlet competitions, which are part of the Pentagon's Drone Dominance program.⁵⁰

⁴⁹ U.S. Army Public Affairs. "U.S. Army Launches Online Marketplace to Revolutionize Drone Acquisition." U.S. Army, March 24, 2026. army.mil.

⁵⁰ Welch, Carley. "Army's Digital Marketplace for Drones Is Officially Open." *Breaking Defense*, March 25, 2026. breakingdefense.com.

This is the Army's primary attempt to break out of slower, more traditional acquisition models for legacy drone systems, which often resulted in a single vendor selection and years-long delays before technology reached soldiers. PAE Aviation seeks to learn from Ukraine's battlefield successes to speed up drone acquisition by adapting to a continuous, open-market approach. Furthermore, the marketplace has adopted several of the key characteristics that this report has identified as fundamental to Brave1's success - namely the mechanism for feedback between end-users and manufacturers as well as a deliberate effort to keep that feedback at or below the CUI level to ensure that the feedback moves quickly and is accessible to as many vendors and manufacturers as possible.

6.2. JIATF-401 (C-UAS)

The Joint Interagency Task Force (JIATF) 401 is the Department of War's lead organization to develop capabilities for Counter-small Unmanned Aircraft Systems (C-sUAS). It is made up of all services and several federal agencies.⁵¹ It is the Department of War's principle means to fund, procure, and deploy critical capabilities, and to consolidate resources to deliver affordable counter-drone capabilities across different military bases both in the United States and abroad to protect infrastructure.⁵²

The development and implementation of JIATF-401 reflects the convoluted aspects of technology innovation endemic to the Department of War. JIATF-401's predecessor organization was the Joint Counter UAS Office (JCO), which despite its name, was a U.S. Army office. JCO eventually evolved into JIATF-401, a truly joint organization with direct reporting to the Deputy Secretary of War, and assumed the Replicator II (now Domestic Shield) C-UAS portfolio from the DIU. However, despite becoming a joint organization, JIATF-401 continues to operate under the old JCO funding line and is not tied to the POM of any service, complicating the long-term feasibility of the organization. Furthermore, JIATF-401 created its own C-UAS marketplace (separate from UAS Marketplace, discussed above) through which it aims to sell C-UAS equipment to state, local, and tribal law enforcement, as well as private security companies, as part of homeland defense.

As a result, JIATF-401 has created a C-UAS marketplace, which exists separately from PAE Aviation's UAS Marketplace. In doing so, the Department of War has two marketplaces, each focused on different sides of the same UAS coin, but catering to two slightly different clienteles.⁵³

Simply merging the two marketplaces may not be a feasible solution, as UAS Marketplace provides UAS capabilities specifically for U.S. military personnel, whereas JIATF-401 may sell to

⁵¹ U.S. Department of War. "JIATF 401 Publishes Guide to Counter-Drone Technology and Privacy Protections." Press Release, March 9, 2026. war.gov

⁵² U.S. Department of War. "JIATF 401 Publishes Guide to Counter-Drone Technology and Privacy Protections."

⁵³ Lushenko, Paul, and Tom Spahr. "Beyond Admiring the Problem: JIATF 401's Jurisdictional Jump." *A Better Peace: The War Room Podcast*. U.S. Army War College, December 2, 2025. Podcast audio. warroom.armywarcollege.edu .

the U.S. military, private security, or local law enforcement. However, the proliferation of various marketplaces, each providing a different type of equipment, risks marketplace “fratricide”, in which efforts are duplicative and inefficient.

6.3. U.S. Navy Rapid Capabilities Office (RCO)

The team has not yet been able to communicate directly with representatives from Navy RCO. The meeting that had been scheduled was cancelled due to significant leadership turnover between the period of 15 and 30 April.

The Navy’s RCO was created to identify and field urgently-needed technologies more quickly. Personnel will be embedded in PEOs and around the fleet to assist with high-priority projects and connect commanders with department-level decision-makers to remove bureaucratic barriers.⁵⁴ To create the RCO, the Navy dismantled and absorbed several existing offices, the Maritime Accelerated Response Capability Cell, the Disruptive Capabilities Office, NavalX, and the Navy’s portion of the DoW’s Replicator activities. Rather than running multiple smaller innovation offices, the Navy consolidated everything under one roof.⁵⁵

RCO’s priority is closing the Navy’s operational gaps. They will do this by prioritizing technology investments in multi-domain unmanned platforms, artificial intelligence, and other products to tackle three key challenges: non-traditional sea denial, terminal defense, and long-range fires.⁵⁶

6.4. Marine Corp Warfighting Lab/U.S. Marine Innovation Unit

The Marine Corps Warfighting Laboratory (MCWL) serves as the primary testing and validation arm for emerging technologies before they reach the operating force. Rather than driving large acquisition programs, MCWL operates a deliberate pipeline: technologies enter through a future tech office with a screening function, where vendors submit white papers against publicly available priorities. Low-to-mid TRL (3-6) systems are assessed technically, evaluated through wargaming and modeling & simulation, and then validated through live force experimentation, the final gate before a Transition Board of generals decides whether a system moves to SYSCOM. A dedicated Rapid Capabilities fusion cell, stood up roughly 2.5 years ago and housing personnel from across SYSCOM, MCWL, and other organizations, focuses on compressing the timeline from inception to fielding. Key friction points include interoperability between UAS systems (both technical and training), range and live-fire safety standards, and the challenge of mass fielding at lower cost, an area MCWL is actively working by buying in bulk.

⁵⁴ Vincent, Brandi. "Navy's New Rapid Capabilities Office Pursues Disruption, with Caution." *DefenseScoop*, December 15, 2025. defensescoop.com.

⁵⁵ Ceder, Riley. "Phelan Establishes New Naval Rapid Capabilities Office." *Navy Times*, August 26, 2025. navytimes.com.

⁵⁶ Vincent, Brandi. "Navy's New Rapid Capabilities Office Pursues Disruption, with Caution."

The Marine Innovation Unit (MIU) is an all-volunteer Selected Marine Corps Reserve unit that leverages the unique civilian expertise of its reservists, including coders, AI/ML specialists, cyber teams, logistics experts, and robotics teams, to accelerate capability development across the Naval Services. Unlike traditional reserve assignments, MIU members operate in their civilian professional capacity, applying real-world skills to priority areas such as contested logistics, data management and integration, and C5ISR-T. The unit identifies gaps in policy, process, and technology and develops solution sets, though it operates without an acquisition budget, coordinating with DIU on CSO/OTAs when needed.

6.5. AFWERX

The team has not yet been able to interview representatives from AFWERX - all outreach has failed thus far, possibly due to the lapse in funding that occurred in October of 2025 and lasted until mid April 2026.

AFWERX is the innovation arm of the United States Air Force, established in 2017 to accelerate the development and adoption of cutting-edge technology within the Air Force and Space Force. Its primary function is to bridge the gap between the military and the commercial technology sector by connecting startups, small businesses, entrepreneurs, and academic institutions with Air Force problems. It operates through several key programs, most notably the Small Business Innovation Research (SBIR) and Small Business Technology Transfer (STTR) contracts, which provide funding to small companies developing technologies relevant to national security. AFWERX works through a hub-and-spoke model, with physical innovation hubs (called "Spark Cells") embedded on Air Force bases around the world, fostering a culture of grassroots innovation among airmen and guardians.

Interestingly, AFWERX experienced a six-month freeze in new contracting activity beginning October 1, 2025. Congressional authorization for the SBIR and STTR programs, which are the statutory mechanisms underpinning nearly all of AFWERX's early-stage commercial technology contracts, lapsed amid a Senate dispute over program reforms. Unlike AFWERX, other DoD innovation bodies such as JIATF-401 operate through procurement catalog vehicles like indefinite-delivery and indefinite-quantity contracts, which draw from different legal and budgetary authorities which were unaffected by the SBIR expiration.

This divergence illustrates a deeper structural vulnerability within the defense innovation ecosystem: when multiple organizations are pursuing the same strategic goals (in this case the goal of rapidly fielding commercial technology to warfighters) but are organized under different mechanisms, a disruption to any one of those mechanisms can selectively paralyze some actors while leaving others fully operational. The result is an uneven, fragile innovation landscape where capability delivery becomes hostage to the particular legislative or contractual pathway a given organization relies upon.

6.6. Assessment of Current U.S. Efforts

Some shortfalls we have assessed in the current U.S. defense innovation space include fragmented marketplace architecture, funding pitfalls, Defense Industrial Base capabilities, and unaddressed DOTMLPF-P implications.

Throughout our interviews, multiple stakeholders flagged the proliferation of competing platforms, including Tradewinds, Vulcan, JIATF-401, Army UAS Marketplace, cUAS Marketplace, and the Army TIC Marketplace, as counterproductive. Vendors struggle to know where to submit their products, units receive conflicting guidance on where to request products, and there is no single architecture tying feedback, testing, and procurement together. JIATF-401 expressed a desire to eventually fold its marketplace under a broader umbrella alongside other services, including Navy platforms for unmanned underwater vehicles, but acknowledged that no organization currently has the mandate to force consolidation.

An issue occurs when speed is sacrificed for interoperability, or interoperability for speed. MCWL identified this as one of the central friction points in fielding UAS systems to the force, noting that ensuring various systems can communicate with one another, both technically and from a training perspective, takes time that rapid fielding timelines do not always accommodate. When systems are pushed to the fleet quickly to meet urgent requests from the operating forces, particularly during ongoing operations, the integration work required to make those systems function within the broader joint architecture often lags behind. Conversely, when interoperability standards are enforced upfront, the fielding timeline expands, and units in the field wait longer for capabilities they need immediately.

Funding and money flow is also considered a bottleneck. The problem is not a lack of money, but that funding gets stuck at higher echelons and does not trickle down to tactical units. Contracting timelines of 270 days to multiple years remain a serious bottleneck, even as the Army UAS Marketplace is trying to compress that into days. The Marketplace currently operates through an allotment system, prioritizing units based on deployment schedules and combat training center (CTC) rotations, but that system is constrained by what the PM-UAS office receives rather than what the force actually needs. Units can supplement with their own operations and maintenance (O&M) funds, but a key legal restriction prevents using O&M dollars to purchase programs of record. Property accountability rules requiring cataloguing of anything over \$10,000 add further limitations, and the proposed fix of raising that threshold to \$250,000 and having industry deliver directly to units has not yet been implemented.

The Defense Industrial Base presents a compounding challenge on two fronts. First, even where procurement pathways are improving, the DIB lacks the production capacity to scale. The research team's interview with the Army UAS Marketplace revealed that manufacturers do not have the capability to produce UAS systems in the quantities required for large-scale combat operations, with efforts like Sky Foundry under AMC representing early steps toward building domestic component production capacity but remaining nascent. Second, the current acquisition system structurally disadvantages the smaller, more innovative firms that are often better positioned to iterate quickly and field relevant technology. One interviewee, speaking from experience on both sides of the civil-military divide, observed that large defense primes like L3 have significant capital but move slowly and are frequently disconnected from how their

technology is actually used in the field. Smaller firms self-fund research and development, move faster, and iterate more effectively, but lack the capital and institutional access to compete at scale. Without deliberate structural changes to how the acquisition system engages smaller vendors, the DIB risks remaining oriented toward a small number of established contractors rather than the broader, more adaptive industrial base that rapid fielding demands.

Finally, there exist outstanding issues regarding doctrine, organization, training, materiel, leadership and education, personnel, facilities, and policy (DOTMLPF-P) for new technologies. First, the timeframe of prototyping and innovation often precludes a deliberate DOTMLPF-P Analysis, and second, new technologies may be integrated into the force haphazardly without regard to their DOTMLPF-P implications.

During a traditional acquisitions process, a thorough DOTMLPF-P Analysis is conducted, which seeks to determine if a non-materiel solution can address a capability gap without the creation of a new defense acquisition program. For example, a given capability gap may be addressed through doctrinal changes (D), changing how units are staffed and funded (O), adjusting the training that units conduct (T), adjusting the training that servicemembers and officers receive during their professional military education (L), addressing the availability of qualified personnel (P), changes to operations and maintenance or infrastructure (F), or policy changes (P). The DOTMLPF-P Analysis may determine that a new acquisitions program is not necessary because capability gaps can be addressed through non-material changes. Ideally, the process allows the services to avoid developing duplicative pieces of equipment, thereby saving both money and time. Through the creation of marketplaces which provide solely commercial solutions, the DOTMLPF-P Analysis is sidestepped completely, as new equipment is added to the unit's repertoire without regard to existing capabilities. As such, the process risks waste and redundancy.

Additionally, the rapid development of technological solutions, and their incorporation into the unit's inventory, may be done without regard to the DOTMLPF-P implications of the equipment itself. When various units procure new pieces of equipment, they receive more than the end item - all aspects of DOTMLPF-P are addressed during fielding. For example, the RQ-11B "Raven" is a sUAS program of record developed for use at the company level. There exists published doctrine for the employment of Ravens during military operations (D), units are authorized a specific number of Ravens through the modified table of organization and equipment (MTOE) (O), Raven operators undergo two weeks of rigorous training and must maintain proficiency (T), noncommissioned officers and officers are trained how to employ Ravens during professional military education courses (L), primary and alternate operators must be identified and trained at the unit level (P), units must have access to training areas (F), and must use Ravens in accordance with standing policies (P). All of these aspects must be considered in the fielding and employment of Ravens, above and beyond the receipt, accountability, and maintenance of the physical system and its component parts. The proliferation of marketplaces selling a multitude of UAS and C-UAS systems - the "M" only - without deliberate attention paid to the other aspects of DOTMLPF-P creates several risks. First, units may not be adequately trained on the operation and employment of new systems, especially if these are cutting-edge technologies, leading to inappropriate use and waste.

Secondly, by their nature, the UAS Marketplace and JIATF-401's C-UAS Marketplace provide commercial off-the-shelf equipment only - equipment not part of a unit's MTOE. As a result, this equipment is difficult to maintain, properly account for, or issue to end users. Finally, the employment of new technologies requires updating existing DOTMLPF-P, but the speed of innovation, and how quickly systems may become obsolete, short circuits this process. As a result, there may be the proliferation of redundant and expensive equipment, inappropriate for the requirements on the ground, and not adequately integrated into existing systems for training, organizing, or employing military forces.

7. Recommendations for the Defense Innovation Unit

The lessons that emerge from Brave1's architecture and operational performance are not transferable wholesale. They must be filtered through the institutional realities of the American defense acquisition system, which operates under different legal authorities, risk tolerances, classification regimes, and democratic accountability requirements. However, there are several key features of Brave1 that may be applicable to the DIU, with important caveats which will be addressed in the following sections. First, a single marketplace for all COTS equipment should supersede all existing marketplaces. Second, U.S. servicemembers must be trained on how to provide actionable feedback to developers that addresses performance parameters without violating classification guidelines. Additionally, networks that both allow for the secure transmission of Controlled Unclassified Information and have been demonstrated to be more rapidly interoperable with SIPRnet should be proliferated to a wider array of vendors and manufacturers. Finally, the ePoints system could be adapted to fit U.S. military procedures and ensure that feedback data is aggregated and reported to manufacturers.

7.1. One Integrated Marketplace for all COTS Equipment

As the military supply system currently exists, military units use the Global Combat Support System (GCSS) to procure any piece of equipment with a national stock number (NSN) or national item identification number (NIIN). As such, GCSS does not facilitate the purchase of most COTS equipment, which lack this identifier. The various marketplaces developed by PAE Aviation and JIATF-401 seek to ameliorate this gap, but risk redundancy. A single, comprehensive marketplace for all approved COTS equipment should be established to serve as a GCSS for COTS gear.

This single, integrated marketplace should maintain aspects of the current system and build in additional characteristics (the existence of which is slightly ambiguous as they pertain to the current marketplaces) to include the assignment of COTS item identification numbers to facilitate robust property accountability, catalogue design that allows for the purchase of component parts, codified policy that enshrines the right to repair, and intuitive functionality that makes it easy for soldiers all the way down to the fire team level to provide actionable feedback to developers and vendors on the performance of various UAS and cUAS systems.

The research team is sensitive to the fact that consolidating disparate marketplaces into one unified system involves significant challenges. Two case studies from recent DoW modernization efforts are instructive on the difficult terrain that these kinds of consolidation efforts inevitably encounter. The first is the rollout of the Defense Travel System (DTS) as it replaced the Integrated Automated Travel System (IATS) used by the Army, Navy, and Marine Corps, and the Reserve Travel System (RTS) used by the Air Force, and the second is the

aborted implementation of the Defense Integrated Military Human Resources System (DIMHRS).

Repeated audits completed by the Government Accountability Office (GAO) confirm that the DTS rollout was plagued by two correlated pain points. First, there was entrenched resistance amongst the services to switching to the new system, and second, the program management office for DTS did not have any institutional authority to compel retirement of the legacy systems it replaced.⁵⁷ These two pain points highlight the importance and urgency of this report's recommendation. Each of the current COTS marketplaces is nascent enough that servicemembers have not yet had time to develop the kind of entrenched resistance to switching to a new platform that the DTS case study illustrated.

The DIU can leverage its Drone Dominance-directed designation as a Department of War Field Activity to rapidly convene a Tiger Team (in conjunction with DoW Acquisitions and Sustainment and DoW Research and Engineering) comprised of each of the service-level innovation units and each of the bodies responsible for the various online marketplaces and begin the coordinated planning required to phase in one common marketplace. Doing so with haste will interrupt the kind of stubbornness that could otherwise inhibit widespread adoption. Further, the unit's new Field Activity status should, especially when considered in tandem with the authorities and expertise housed under DoW A&S and DoW R&E, enable comprehensive dissolution of the legacy platforms once the unified platform is in place

This dissolution comes with one caveat, however, which is that at this time, the research team recommends expanding upon the existing Army UAS Marketplace as the center of gravity for this effort rather than creating an entirely new structure with cannibalized components of each legacy platform. This is where the second case study provides useful precedent. DIMHRS was designed to be a joint personnel and pay system which was expected to replace about 80 legacy personnel systems and provide those systems for all DoW military personnel.

The two primary, and once again, correlated reasons GAO identifies for its failure were (1) the DoW never identified how many legacy systems would need to be replaced, and (2) the Marine Corps had in fact already solved the problem on its own by implementing the Marine Corps Total Force System (MCTFS). The Navy had expressed a desire to simply adopt MCTFS, but Congress resisted and pushed ahead with the foundering DIMHRS system before ultimately cancelling it altogether after spending over \$668 million on its development.

The research team's conversations with JIATF-401 uncovered a remarkably similar sentiment: JIATF-401's personnel feel confident that the Army UAS Marketplace is the model to work from. The DIMHRS case study provides DIU with an object lesson - especially when a preference for another entity's system has already been expressed by a major player operating in the same space, the right answer is most likely to take that preference seriously rather than forging ahead with a brand new model.

⁵⁷ U.S. Government Accountability Office. *Defense Travel System: Reported Savings Questionable and Implementation Challenges Remain*. GAO-06-980. Washington, D.C.: Government Accountability Office, September 26, 2006. gao.gov.

7.2. Optimizing Feedback Reporting

The feedback structure of the Army UAS Marketplace warrants critical lessons for DIU as they facilitate the widespread adoption of a single, unified marketplace. As noted earlier in this report, Army PAE deftly adapted the Brave1 feedback structure without even realizing it, making it quick and easy for soldiers to log feedback on the performance of different UAS systems that UAS developers can see and iterate upon. Critically, the leadership from the UAS Marketplace noted that it is the goal of the unit to keep all feedback classified at or below the CUI level to ensure it can move quickly between uniformed users and commercial developers.

Currently, the unit maintains that this system functions well, and soldiers who have accessed the platform have largely been able to keep their feedback at the CUI level. However, the research team contends that there may be an early adopter bias in play here. The platform is quite nascent (it went live in March 2026), and users who have been first to the table in employing this platform are more likely to be users who were already familiar with its goals and intentions. As the program scales and more users log feedback, norm diffusion lag will inevitably complicate the picture, especially as the DoW trends toward overclassification for fear of spillage consequences.

The issue of overclassification has been the subject of official inquiry and popular ire amongst defense professionals. An exact definition of the term is, ironically, elusive. Congress failed to define it when passing the Reducing Overclassification Act in 2010.⁵⁸ Digression aside, the trend is well-documented, not least by the fact that an act of Congress sought to address it, and the incentives in play are challenging: underclassifying sensitive information can (rightfully) result in harm to national security and subsequent fines and imprisonment, while the crime of overclassifying does not come with any penalties, despite the fact that overclassification slows the velocity of information significantly.

There are several directions from which the DIU can approach this issue of speed. Lower levels of classification allow information to move faster, so some effort should be made to ensure that as much information as possible remains at lower levels of classification. Higher levels of classification make information move slower, primarily because systems that house information at higher levels of classification are not as widely propagated nor as widely utilized by those with access as systems authorized to house information at lower levels of classification. Therefore, some effort should be made to more widely propagate those systems. Finally, the intelligence risk inherent in keeping more information at lower levels of classification is the exact barrier to doing so, which means some effort should be made to harden the lower-classification environment, especially as it pertains to commercial vendors' accesses, to a sufficient level.

The research team recommends that the DIU pursue all three directions simultaneously. On the first front, Mobile Training Teams offer a direct and well-established intervention. The Marine Innovation Unit has already seen success in its Generative AI Mobile Training Teams, which provides both a model and a source of expertise to consult on the logistical challenge of pushing

⁵⁸ Richard F. Grimmett, *Classified Information Policy and Executive Order 13526*, CRS Report R41528 (Washington, DC: Congressional Research Service, December 10, 2010), [congress.gov](https://www.congress.gov).

security classification guidance training teams out, at scale, to augment the realistically minimal annual training that the operating forces get on this topic. As noted, the overclassification problem is pervasive, but addressable. MTTs can attack this problem and the aforementioned norm diffusion lag problem by ensuring that users of the unified procurement platform understand that the norm with feedback on the platform will be to keep information CUI or below and, more importantly, *why*.

On the second front, wider propagation of Secret-level infrastructure, to include both SIPR terminals and Tactical Cross Domain Solutions (TACDS) would reduce the velocity penalty imposed when information legitimately needs to live at a higher classification level. However, the more nuanced and scalable fix is a combination of two complementary measures that can harden the lower-classification environment, especially for commercial users. Measure one is wider adoption of the Army's Sensitive But Unclassified-Encrypted (SBU-E) architecture, and measure two is broader enrollment of commercial tech vendors in the NSA's Cybersecurity Collaboration Center (CCC).

SBU-E does not house classified information, rather; it is an encrypted, hardened, unclassified network that has been demonstrated to interface efficiently with classified networks via systems like TACDS, most recently by Marines at Project Convergence Capstone in April of 2025.^{59 60} The Marines were able to pass maritime track data to Fort Irwin, where it was up-classified via TACDS and used to control a notional Tomahawk strike, validating the concept that perishable tactical information can remain unclassified without sacrificing operational security or utility.⁶¹ The designers of the SBU-E architecture have leaned into the same principle that Brave1's administrators have: tactical wartime information is often so perishable that even if an adversary were to discover it, it would be too late to act upon, meaning classification adds friction without adding security.⁶²

The NSA CCC program complements SBU-E by hardening the commercial side of the feedback loop. The CCC provides no-cost cybersecurity services to any verified Defense Industrial Base company. Those services include Protective DNS, Attack Surface Management, Threat Intelligence Collaboration, and penetration testing.⁶³ By generating more awareness, clarifying eligibility, and incentivizing (possibly after polling commercial vendors who are not enrolled and inquiring what the reason for that is) more commercial UAS and other technology developers engaged in the unified marketplace to enroll in CCC, the DIU can raise the baseline security posture of the unclassified environment through which feedback flows, making the case for keeping more feedback at the CUI level more defensible. The two measures work in tandem: SBU-E makes the lower classification environment more adept, and the CCC makes it safer.

⁵⁹ "Army RFI: PEO Command Control, Communications: Tactical (PEO C3T) Mission Command: Hardware and Software Architecture Recommendations for Cross Domain Solution," OrangeSlices AI, September 24, 2024, orangeslices.ai.

⁶⁰ Mark Pomerleau, "Marines Accomplish Two Communications 'Firsts' at Army's Project Convergence," *DefenseScoop*, April 14, 2025, defensescoop.com.

⁶¹ Ibid

⁶² Ibid

⁶³ "How NSA Supports the Defense Industrial Base," CyberSheath, cybersheath.com.

7.3. Facilitating Feedback and Data Aggregation

The Ukrainian military developed the ePoints system to address several structural shortfalls that existed regarding resource allocation and data aggregation. Neither of these issues are directly transferable to the U.S. military, as the logic behind ePoints employment is reflected in current military procedures. However, the concept may be adapted to facilitate the utilization of a COTS marketplace.

Brave1 utilizes ePoints to aggregate frontline data, tying the accomplishment of tactical objectives to procurement options. This serves as a forcing function for front line troops to gather battle damage assessments (BDAs), as future purchasing ability is tied to accurate reporting of drone strikes. While the U.S. military includes BDAs as a part of any complete strike mission, the concept of verifiable information regarding the efficacy of equipment in combat contributes to a holistic assessment of its capabilities. While a fire mission involving 155mm high explosive shells requires a BDA to determine what damage has been inflicted upon the enemy, a strike mission involving a COTS drone requires an assessment of whether the product worked as intended. This information is needed not only by commanders on the ground, but also to manufacturers who must update their products according to front line feedback. As such, existing U.S. military procedures, such as gathering BDAs, must include an assessment of the efficacy of the COTS system itself.

The ePoints system also incentivizes the employment of weapons. For example, killing a Russian soldier does not result in as many ePoints as capturing one, as Russian prisoners of war may be traded for Ukrainian ones. To incentivize *capture* rather than *kill*, different values of ePoints are attributed towards each outcome. Likewise, the U.S. units will publish a high-payoff target list to prioritize which weapon system should be used against specific types of enemy targets, and in order of their importance. This ensures that exquisite weapon systems are not expended on low priority targets. In a future war, a type of an ePoints system could be developed to provide clear and concise information to frontline troops regarding which types of COTS equipment are most appropriate for specific targets. For example, if a drone that is designed to destroy armored vehicles is used against troops without cover, fewer ePoints would be granted to disincentivize improper employment of the weapon system.

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