

UKRAINE

A large, light blue silhouette of the map of Ukraine is centered in the upper half of the page, serving as a background for the title.

Drone Superpower

Ukraine's UAV Success and
Where Taiwan-Ukraine Cooperation Fits In

April 2026 Samara Duerr



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Taiwan-Ukraine Cooperation Fits In**

**Research Institute
for Democracy,
Society and
Emerging
Technology (DSET)**

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The National Security Research Group at DSET conducts research and provides policy recommendations on dual-use technologies. Our focus includes building a China-free drone supply chain domestically and supporting democratic allies by supplying drones and drone components. We also prioritize enhancing communication resilience through trusted satellite communication service providers and strengthening the protection of submarine cables. Additionally, we assess the alignment of Taiwan's military strategy with that of our allies from strategic to operational levels.

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Table of Contents

Executive Summary

Introduction

Methodology

1. Progress & Challenges in Taiwan's Drone Industry	01
Pillar 1: Scaling Demand	04
Pillar 2: Building Technological Capabilities	13
Pillar 3: Building Technology Clusters and Expanding Testing Infrastructure	27
Pillar 4: Aligning Rules and Certification	29
2. Ukraine's Overall UAV Policy Structure & Ecosystem	35
3. Ukraine's Key UAV Objectives	39
Survival, Adaptation & Decentralization	40
Concurrent Localization and Co-Production	44

Dual Deployment Strategy	63
Human Skill Before Aircraft Autonomy	65
4. Ukraine's Current Production Capacity and Production Goals	67
5. Ukraine's Procurement Plan	69
Types of UAV Ukraine is Actively Procuring	70
Ukraine's Domestic Procurement	74
6. Ukraine's Top Export and Import Destinations	77
7. Ukraine's International Cooperation Structure	85
8. Taiwan - Ukraine Cooperation	91
Level of Current TW-UKR Cooperation	92
TW-UKR Cooperation Potential	95
Challenges to TW-UKR Cooperation	96

9. Taiwan - Ukraine Collaboration Policy Recommendations	99
10. Interviewee Appendix	106
References	110

Executive Summary

Table 1: Executive Summary of Ukraine's UAV Industry and UKR-TW Cooperation

	Taiwan	Ukraine
Policy Objectives	<ul style="list-style-type: none"> • Demand-driven industrial development • International market expansion • Integration of uncrewed systems into armed forces structure • Increased drone-trained personnel 	<ul style="list-style-type: none"> • Survival and adaptation • Concurrent localization and co-production • De-centralized procurement • Two-pronged deployment strategy <ul style="list-style-type: none"> • FPVs hold the front line and long range drones perform deep strikes • Training prioritized over AI
Production Capacity & Future Goals	<ul style="list-style-type: none"> • 260+ UAV-related firms operate in Taiwan, with an estimated industry output of NT\$12.9 billion in 2025^{1,2} • In 2025, annual capacity is at least 122,706 units per year (based on export numbers), a 35.5x increase from 2024 exports³ • 2025 exports are valued at NT\$2.95 billion, a 20-fold increase from NT\$140 million in 2024² • In January–February 2026, exports reached roughly 85,500 units, representing a 35-fold increase compared with the same period in the previous year. 	<ul style="list-style-type: none"> • At least 4 million drones/year⁴ • With funding, UKR will be able to produce up to 20 million drones in 2026, including FPV, ISR, and other types⁵ • Ukraine ramped up production to 600–800 interceptor drones per day at the end of November, with a longer-term target of about 1,000 daily⁶

Investment & Procurement Plan

- Plans to invest NT\$44.2 billion (U.S. \$13.8 billion) between 2025 and 2030
- Plans to buy 48,750 dual-use commercial drones for military use in 2026
- A special defense budget worth NT\$1.25 trillion (U.S. \$39.5 billion) which includes plans to procure 200,000 drones, yet the budget is currently stalled⁷
- Plans to procure 635 units C-UAS systems between 2026–2028, at a total cost of NT\$9.6 billion
- 2026 Budget: UAH 709.8 billion (+UAH 1 billion added before the second reading) – procurement of weapons and military (special) equipment, **including drones**, ammunition, and hardware⁸
- Calling allied countries to invest, rather than sending weapons
 - Drone Coalition, PURL, SAFE, 'Danish Model'

Strengths

- Chips/Advanced electronics
- Hardware manufacturing
- Subsystem integration
- Battle-tested technology
- Continual feedback loops
- Constant innovation

Limitations

- Limited production scale
- High manufacturing costs (2-3x higher than Chinese products)⁹
- Lack of international governments procurement
- Supply chain bottlenecks
 - U.S. export control (thermal sensors)
 - Batteries/Motors rely on critical minerals
- Technology gaps
 - Three chips (flight control, positioning, and communication chips)
 - Two software (flight control and positioning software)
 - Gimbal cameras
- Lack of funding to fully utilize domestic production capacity
- Security concerns over Chinese components and FPVs
- Export restrictions

<p>Top Import/Export Destinations (By Value in USD)</p>	<ul style="list-style-type: none"> • Imports From (2025): <ol style="list-style-type: none"> 1.China 2.United States 3.Slovenia • Exports To (2025): <ol style="list-style-type: none"> 1.Czechia 2.Poland 3.United States 	<ul style="list-style-type: none"> • Imports From (2022-2025): <ol style="list-style-type: none"> 1.China 2.Poland 3.Turkey • Exports To (2022-2025): <ol style="list-style-type: none"> 1.Czechia 2.Mauritania 3.United States
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<p>International Cooperation Models</p>	<ul style="list-style-type: none"> • Supply-chain cooperation • Component integration • Joint development of commercial opportunities in third markets • Technology exchange and capability development • Drone Diplomacy Task Force 	<ul style="list-style-type: none"> • Co-Production in Ukraine "Build in Ukraine" • Co-Production Abroad "Build with Ukraine" • Component sourcing • R&D and tech sharing • Joint training • Procurement • Aligned Certification
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<p>International Partners</p>	<ul style="list-style-type: none"> • TEDIBOA signed 12 MoUs and NCSIST signed 4 across the United States, Canada, Poland, Czechia, Lithuania, Latvia, Estonia, Japan, and Ukraine 	<ul style="list-style-type: none"> • For Co-production, joint training, and R&D agreements, Ukraine predominantly works with the 20 International Drone Coalition Members
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<p>Potential Needs</p>	<p>Need UKR's</p> <ul style="list-style-type: none"> • Technological expertise • Drone usage strategies • Market 	<p>Need TW's</p> <ul style="list-style-type: none"> • Microelectronics • Batteries and battery cells • Motors
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Current TW-UKR
Cooperation

1. MoU
 - a. Taiwan Excellence Drone International Business Opportunities Alliance (TEDIBOA) & Iron Cluster: Facilitate B2B contact. Signed at the International Defence Industry Exhibition (MSPO) in Poland on September 2, 2025^{10,11}
2. Business to Business (B2B)
 - a. Component Sourcing: According to one Ukrainian entity interviewed by DSET, out of **61** UAV related companies, **7 Ukrainian companies** source from Taiwanese companies¹² These companies likely work with the same **4 Taiwanese companies**, sourcing airframes, battery cells, flight controllers, motors, and other microelectronics¹³
3. Exports
 - a. DSET Interviews with both Taiwanese and Ukrainian equivalents state that most, if not all of drone exports to Poland and Czechia—the top countries TW exports to—are being transferred to Ukraine¹⁴
 - b. From 2022-2025, **Taiwan exported 20,264,211 USD** worth of drones **to Ukraine**. 2025 exports accounted for the majority, totaling \$20,092,140 USD

Ukraine has combined the asymmetric deployment of drones, high speed technological iteration cycles, and the mass scaling of UAVs for one defining purpose: to combat Russia's advantage in conventional manpower and traditional weaponry. To meet this objective, Ukraine has expressed interest in increasing domestic production capacity to enhance resilience in the absence of external resources and ensure smooth UAV operation. However, financial constraints have resulted in Ukraine's reliance on imports of cheap, Chinese components and drones. Despite various Chinese UAV export restrictions, Ukraine's import data showcases a general upwards trend of Chinese drone imports—the bulk of which are Group 1 drones with a maximum take-off weight of more than 250 g but not more than 7 kg (HS code 8806.22). This is a recognized issue by Ukrainian UAV experts: A 2025 joint study by Iron Cluster and Snake Island Institute, *Components of Freedom*, stated that with regard to security and reliability of supply, China is not a political ally and has increasingly complicated component imports.¹⁵

Consequently, there is a growing Ukrainian sentiment to de-risk its UAV industry from the Chinese supply chain. Opportunely, Taiwan is orienting itself as the prime 'non-red' alternative. Both nations would benefit from cooperation: in the short term by establishing a "volume-first" component supply pipeline; and in the long term through joint coproduction efforts—utilizing Ukrainian technology and experience and Taiwan's manufacturing skills—for long range and interceptor drones. As Ukraine will move to solidify its status as a post-war manufacturing hub and begin exporting surplus systems—a process it started last year to revitalize its economy—Taiwan must integrate into the supply chain now to secure its position as a long-term partner.

As it stands, cooperation between Taiwan and Ukraine centers on business-to-business (B2B) component sales of Taiwanese flight controllers, batteries, motors, and other microelectronics to Ukrainian companies. According to Ukrainian and Taiwanese entities interviewed by DSET, out of 61 UAV related companies, 7 Ukrainian companies

source the aforementioned flight controllers, batteries, motors, and other microelectronics from 4 Taiwanese companies.¹² While direct engagement remains limited, Taiwanese companies are working in greater volume with Polish and Czech firms to supply both components and complete drone units for transfer to Ukraine. According to DSET interviews with drone industry stakeholders, including major manufacturers, this demand in Ukraine drove Taiwan's drone exports to Central Europe in 2025, totaling 70,372 units to Czechia and 31,711 units to Poland, although it cannot be ascertained through public information whether this is the exact amount being transferred to Ukraine. A Memorandum of Understanding (MoU) between Taiwan Excellence Drone International Business Opportunities Alliance (TEDIBOA) and Ukraine's Iron Cluster has further elevated cooperation to the level of quasi-official industrial partners.

Broadly, Ukraine's asymmetric utilization of drones has changed the face of modern warfare. Now, every country in the world is striving to learn, adapt, and keep pace. As the Russo-Ukrainian War persists, Ukraine has sought new paths to increase defense resiliency, which Taiwan strives to emulate under increasing geopolitical pressure. In consideration of the exchange of technologies and tactics between Russia and China, it is especially crucial that Taiwan likewise learns from Ukraine.

Ukraine's approach to secure its drone supply chain, in particular, was made possible by striking a balance between the localization of cheap, low-tech first person view (FPV) drones, and co-production of higher-tech, higher attribute drones. Ukraine is currently co-producing drones with at least 20 countries. Among these allies, the top five countries submitting requests to Ukrainian manufacturers are Lithuania, the U.S., the UK, Czechia, and Latvia.¹⁶ Moreover, long range drones and interceptors have the most number of joint projects identifying them as key strategic priorities in asymmetric warfare. Based on its other ventures, Ukraine is also actively striving to procure more attack drones, air defense systems, and maritime unmanned systems.

Pointedly, cooperation models vary: Ukraine's collaboration with Turkiye

and Germany is focused on establishing domestic subsidiaries and building factories for proven systems like the TB2 and Vector drones within Ukraine.^{17,18} A second model with the United States and United Kingdom aims at advanced technology integration, especially developing AI-driven interceptor drones and plugging frontline data into production lines.^{19,20} Finally, Ukraine has partnerships with nations like Denmark and Czechia to manufacture Ukrainian-designed drones abroad to secure supply chains.^{21,22,23} This effectively helps Ukraine create redundancy and diversifies their UAV supply chain. Based on current open-source reporting, none of the above arrangements involve Taiwan at this time.

Another experience Ukraine highlights is the prioritization of de-centralized procurement under a central framework to quicken delivery time and allow for continuous feedback loops between manufacturers and military units themselves. This catalyzes innovation.

Evident from the recent surge of MoUs and Letter of Intents with Ukraine and its allies, Ukraine is still continuously seeking the expansion of safe, joint-venture drone manufacturing facilities abroad. In conjunction, this method allows for financial backing—which Ukraine desperately needs—by way of allies' subsidiaries.

For Taiwan, this presents an opportunity: by employing its existing mastery in manufacturing, semiconductors, and other high-tech micro-electronics, it can offer both component sales and joint ventures to Ukraine. Taiwan's cultivated expertise in chips, motors, and batteries can be directly transferred into research and development of new, high-end drones that Ukraine still desires. More importantly, Taiwan vitally needs access to Ukraine's battlefield experience, deployment strategies, and tested drone technology.

A collaborative Taiwan-Ukraine drone industry relation would be reciprocal and advantageous.

To initiate drone cooperation, Taiwan should immediately prioritize the

supply of flight controllers, batteries, motors, and other microelectronics and shift domestic manufacturing toward mass production, while simultaneously establishing long-term co-production infrastructure for higher attribute drones—particularly long range and interceptors. To sustain this partnership, Taiwan must institutionalize combat feedback loops and foster educational exchanges to drive innovation and deepen diplomatic ties.

Recommendations: Realistic Steps Towards Operationalized TW-UKR Drone Cooperation

The following recommendations are based on an in-depth analysis of Ukraine's current UAV landscape and co-production efforts. These findings identify gaps for Taiwan to enter Ukraine's drone ecosystem.

In the short-term, Taiwan should focus on supplying Ukraine with components, specifically for batteries and battery cells; motors; flight controllers and other microelectronics.

Ukraine's immediate realities require a mass supply of 'good enough' cost-effective, consumable components that can be delivered quickly. Due to political constraints, Taiwan can start by exporting to Ukraine's neighboring countries—a form of paradiplomacy. As a result, this creates a long-term partnership where Ukraine—projected to become a global drone hub post-war—relies on Taiwanese inputs for future exports.

In the long term, Taiwan's Ministry of Economic Affairs (MOEA) should coordinate investment into TW-UKR co-production infrastructure both abroad and domestically, especially on long range and interceptor drones using Taiwanese, drone-specific chips.

Ukraine's allies have gained trust by investing directly into Ukrainian companies, leading to joint ventures both in Ukraine and abroad. Ukraine and Taiwan are in need of these models, given that Ukraine does not have a strong domestic foundational manufacturing base for these higher-attribute drones. Taiwan moreover needs to consider long range ISR drones in light of its maritime geography. This arrangement should also

involve the Industrial Technology Research Institute (ITRI), to handle R&D technical cooperation, the National Science and Technology Council (NSTC) to handle business and other logistical coordination, and the Ministry of Transportation and Ministry of Defense to control testing fields and requirements. This method also ensures that UAV certification is aligned.

In both short and long term, Taiwan should evaluate what new (Composite Braiding Machines) and old (Automotive, Precision Machining, Carbon Fiber Composite Material) manufacturing technologies can be shifted towards mass production of UAVs.

Ukraine is always looking for new methods and technologies that maximize efficiency and address scale. Taiwan, as a top manufacturer in many key sectors like semiconductors and precision engineering, has the prerequisite ecosystem for rapid prototyping.

Taiwan needs to institutionalize a feedback loop with Ukrainian experiences. Knowledge and 'lessons learned' should be relayed to Taiwanese manufacturers.

Constant innovation is only possible through frequent assessments and changes made in accordance. Pathways for this include a mandated feedback requirement on private component and system sales, formalized tech sharing agreements on a B2B or association to association level, or contracting Ukrainian entities to validate Taiwanese products and components.

Taiwan should support Taiwan-Ukraine educational bridges.

Taiwan should fund joint university research programs and participate in digital incubators. This develops the next generation of talent that compounds Ukrainian and Taiwanese technology expertise. Concurrently, this deepens non-formalized diplomatic relations by creating enduring people to people connections.

Introduction

Ukraine is the leading example of success in the modern drone industry. Growing from a limited number of manufacturers in 2022 to around 900+ companies committing to unmanned aerial vehicle (UAV) production, services, or related products, Ukraine's overall defense and asymmetric warfare strategies have been bolstered by its UAV technological innovations.¹⁵ As Taiwan initiates its own drone sector in efforts to increase national security, it must learn from Ukraine. Its strategies, technology, and training tactics are vital pillars in the foundation of contemporary conflict.

Still, while Ukraine's ability to scale with limited finances and resources demonstrates true resilience under pressure, Ukraine's industrial ecosystem has now reached an inflection point: addressing the risks of supply chain dependencies by phasing out the usage of Chinese drone components. This shift opens a pathway for Taiwan to become a part of Ukraine's drone ecosystem as an alternate supplier and partner for a 'non-red' supply chain.

Concentrating solely on military-use UAVs, this report will firstly lay out the current state of Taiwan and Ukraine's UAV landscape including: UAV policy objectives and structures; procurement methods and plans; production goals and capabilities; and challenges. This will allow for a greater understanding of Ukraine's push for localization, its new international co-production policies, and what critical liabilities it is confronting.

More importantly, by firstly delving into a comprehensive analysis of Ukraine's infrastructure, Taiwan can first take away technological and strategic methods. Afterwards, analysis will move on to how Taiwan can contribute in lessening Ukrainian vulnerabilities, while at the same time strengthening its own nascent drone infrastructure. Taiwan can target specific gaps in the Ukrainian market which it is efficiently aligned to fill. Then, by identifying the best methods for Taiwan-Ukraine cooperation and how to institutionalize sustainment practices, this report hopes to facilitate awareness of the immediate next steps, and subsequent long-term

measures, to create a comprehensive Ukraine-Taiwan defense partnership on UAVs. To advance such actions, this report will conclude with the proposal of pinpointed policy recommendations deemed necessary for effectively implementing new TW-UKR cooperation pathways.

Methodology

This analysis draws on information provided by Ukrainian, Taiwanese, and international drone manufacturers; Ukrainian and Taiwanese defense tech clusters; independent Ukrainian organizations and individuals; news from the Ministry of Defense of Ukraine and Taiwan's Ministry of Foreign Affairs; Ukrainian defense tech initiatives; non-profit organizations; academic reports; and open-source intelligence (OSINT). Overall, DSET conducted 30 interviews with 12 Ukrainian entities, 10 foreign entities with connections to Ukraine, and 8 Taiwanese entities with connections to Ukraine over the period from May 2025 to January 2026. For security measures, their identification will remain anonymous with only general descriptive indicators of their role in the drone ecosystem being revealed (See Interviewee Appendix, Table 17).

Beyond these interviews, primary reports by Ukrainian independent organizations, Snake Island Institute, and their reports *Building the Arsenal: Securing the Components to Sustain Combat Power and Components of Freedom*; In Tech Force in UA and the Better Regulation Delivery Office (BRDO)'s August 2025 analytical report; and The Jamestown Foundation's *Russia's War Transforms Ukraine into a World-Leading Military Producer* have supplemented information from the Ukrainian perspective.^{15, 24, 25} Public information from the Taiwanese government, including budget figures and policy statements, as well as DSET's previous drone report *Drones for Democracy: U.S.-Taiwan Cooperation in Building a Resilient and China-Free UAV Supply Chain* have further expanded Taiwan's position.

Part I.

Progress & Challenges in Taiwan's Drone Industry

Co-Authors: Cathy Fang & Ting-Wei Lin

(Note: the data cutoff for Part I is February 2026)

Since 2022, Taiwan's UAV industry has been catalyzed by Ukraine's demonstrated asymmetric drone strategy success. Striving to match this resiliency, Taiwan has begun incorporating drone technology into its national defense strategy. In order to do this, and in recognition of supply chain risks, the Taiwanese government has been progressing towards an increasingly self-reliant UAV ecosystem such that, in times of crises, it would not be wholly dependent on allies' exports.

Progress has been most visible on the demand and policy-coordination fronts. In particular, on October 16, 2025, Taiwan approved a national UAV development and procurement framework that contains four main strategic pillars to escalate industry development, enhance defense autonomy, and create a resilient non-red supply chain²⁶:

- 1) Expanding domestic and international demand
- 2) Fostering technological advancement and international cooperation
- 3) Forming industry clusters and ecosystems
- 4) Improving regulatory frameworks for unmanned vehicles

This development is not without its challenges, however, as according to DSET's *Drone for Democracy* report published in June 2025, Taiwan's UAV industry continues to face three structural constraints: limited production scale, persistent reliance on foreign technologies, and supply-chain bottlenecks.⁹ Historically, high unit costs for non-red components—2-3x more expensive—are driven up by cheap competitor PRC components, fragmented and relatively modest domestic procurement, and the absence of sustained foreign government orders which has prevented economies of scale.⁹ While Taiwan has achieved China-free final assembly, it remains dependent on allied suppliers for mission-critical subsystems, including flight-control, positioning, and communications chips; flight-control and ground-control software; and advanced payloads such as gimbal and

thermal imaging systems. These dependencies are compounded by upstream vulnerabilities, including exposure to U.S. export controls on military-grade components—particularly thermal imaging modules—and continued reliance on China for critical minerals used in battery cells and electric motors.

Moreover, the recent surge in demand has exposed new constraints. It remains uncertain whether domestic manufacturers can expand production capacity within compressed timelines while maintaining quality assurance, cybersecurity standards, and trusted supply-chain compliance. As a result, despite stronger policy alignment and unprecedented procurement commitments, Taiwan's UAV industry continues to face enduring challenges: persistent cost disadvantages relative to Chinese systems, production volumes far below wartime benchmarks such as Ukraine's million-unit annual output, limited access to foreign government procurement markets, ongoing dependence on China-sourced upstream materials, and continued reliance on foreign suppliers for mission-critical subsystems.

To address these entrenched vulnerabilities, the October 2025 framework establishes a targeted roadmap for industrial maturity. Thus, the remainder of this section unpacks each pillar in turn, highlighting the concrete policy instruments Taiwan has adopted, from large-scale procurement and industrial subsidies to international partnerships and regulatory reforms.

**Pillar 1:
Scaling Demand
Through Public
Procurement
& International
Market Expansion**

To expand domestic demand, Taiwan's Ministry of National Defense (MND) initiated the largest drone procurement plan in Taiwan's history in July 2025.²⁷ By 2027, Taiwan plans to acquire 48,750 units across five drone types, with a total budget of around USD \$1.56 billion (NT\$50 billion). Compared with 3,422 units procured in 2024, this represents an increase of more than fourteen-fold. Type A, or Group 1 FPVs, accounts for the bulk of planned purchases—about 34,000 units. This procurement requires domestic assembly, with preference given to those who source components locally. Moreover, Chinese-made parts and brands are prohibited, meaning companies from China, or those with Chinese investment including via third countries, are not eligible to participate.

Table 2: Ministry of Defense Drone Procurement Types and Quantities

(Source: Compiled from news reports, Taiwan's military drone procurement tender notice, and video materials. [28,29,30](#))

Platform	Type	Control & Transmission Range	Endurance (Unloaded / Loaded)	Payload Capacity	Key Features	Planned Procurement (2026)	Planned Procurement (2027)
Immersive FPV attack	Multi-rotor, Vertical Takeoff and Landing (VTOL)	Over 6 km	30+ min (unloaded)/ 7+ min (loaded)	Over 2.5 kg	1. Equipped with small munitions 2. Detonates upon impact	7,500	26,500

Bomb-drop multirotor	Multi-rotor VTOL	Over 25 km	60+ min (fully loaded)	10 kg (including optical payload)	<ol style="list-style-type: none"> 1. Heavier payload variant 2. Equipped with larger munitions 3. Capable of loitering and precision drop at fixed positions 	1,020	3,120
Medium-range loitering munition	Fixed-wing catapult launch	Over 90 km	2+ hrs (fully loaded)	10 kg (including optical payload)	<ol style="list-style-type: none"> 1. Flight range > 180 km 2. Employs impact-detonation mechanism 3. Possesses long-range strike capability 	980	3,060
Small loitering munition	Fixed-wing catapult launch	Over 30 km	30+ min (fully loaded)	2.5 kg (including optical payload)	<ol style="list-style-type: none"> 1. Flight range > 30 km 2. Employs impact-detonation mechanism 3. Possesses long-range strike capability 	1,340	4,520
Littoral ISR	Fixed-wing VTOL	Over 100 km	2.5+ hrs (fully loaded)	Optical payload	<ol style="list-style-type: none"> 1. Avg. flight speed > 80 km/h 2. Integrated EO/IR camera system 3. Equipped with laser rangefinding functionality 4. Provides real-time battlefield ISR and target acquisition capability 	350	360

On top of this procurement tender, in January 2026, Taiwan's Minister of National Defense Minister Wellington Koo disclosed unclassified details of the Special Budget for *Strengthening Defense Resilience and Asymmetric Capabilities*, an eight-year framework (2026-2033) with a provisional ceiling of USD \$40 billion (NT\$1.25 trillion).³¹ Under the "Uncrewed Platforms and Counter-UAS" category, the plan combines foreign acquisitions—1,554 ALTIUS-700M loitering munitions and 478 ALTIUS-600 ISR systems—with large-scale domestic procurement, including roughly 200,000 UAVs, over 1,000 uncrewed surface vessels (USVs), and multiple counter-UAS systems, guided by a "domestic-production-first" principle.³² This number should be understood as an aggregate planning reference rather than a single, confirmed procurement contract. The special defense budget is currently being stalled at the Legislative Yuan, where the opposition-controlled legislature blocked the proposal 10 times from proceeding to committee review.³³ On February 24, Taiwan's Legislative Yuan reached a cross-party consensus, with the exact budget amount being contended alongside a line by line review.

To complement the MND plan, the Executive Yuan later announced investments valuing USD \$1.43 billion (NT\$44.2 billion) over six years (2025–2030).^{34,35} It aims to consolidate 50,898 additional systems for civilian and interagency use, with delivery scheduled for 2027 and 2028. Combined with the MND's 48,750-unit plan, Taiwan's public-sector procurement pipeline would reach roughly 100,000 drones before 2030.³⁶

Table 3: Taiwanese Government's Planned Investments in the Domestic Drone Industry

(Source: Compiled from news reports and Taiwan's military drone procurement tender notice [28,29](#))

Government Agency	Planned Acquisition Number	Budget Planning
Ministry of National Defense	48,750 units across five drone types	US\$1.56 billion (NT\$50 billion)
	635 Counter UAS System	US\$303.7 million (NT\$9.6 billion) ³⁷
Executive Yuan	50,898 systems for civilian and interagency use	US\$625 million (NT\$20 billion) ³⁴

Further, on November 26, President Lai Ching-te announced a proposed special defense budget package of up to USD \$40 billion (NT\$1.25 trillion) for 2026–2033 under a draft Special Act on Procurement for "Enhancing Defense Resilience and Asymmetric Capabilities," including funding lines for ISR and strike drones, uncrewed surface vessels, and counter-drone systems. The budget for the MND's 48,750-unit plan is also included. This shows that Taiwan's fiscal planning is shifting in ways that reinforce an industrial push.

These procurement efforts have led to an evidenced rise in domestic production. In 2024, DSET estimated Taiwan as having the capacity to manufacture 8,000–10,000 units, while Taiwan's 2025 annual production amounted to at least 122,706 units per year based on export numbers—a 35.5x increase from 2024 exports.³

To further extend its UAV market into the international sphere, Taiwan's Ministry of Economic Affairs established the Taiwan Excellence Drone International Business Opportunities Alliance (TEDIBOA) in September 2024.

This association unites Taiwan's key industry players and assists them with resource integration, technology collaboration, and strategic partnerships. The association has also led delegations to major international exhibitions—including Japan Drone 2025, XPONENTIAL Europe 2025 in Germany, and XPONENTIAL 2025 in the United States—to support Taiwan's entry into the global UAV supply chain.

Since its creation, TEDIBOA has signed twelve memoranda of understanding (MoUs) with UAV industry associations and partner organizations in the United States, Poland, Czechia, Lithuania, Latvia, Estonia, Japan, and Ukraine. These 12 MoUs are distributed regionally as 3 from the U.S., 7 from the EU, and 1 from the Indo-Pacific. The three most recent additions include MoUs between TEDIBOA and the Japan UAS Industry Development Association (JUIDA), Ukraine's IRON Lviv cluster, and the Polish Chamber of Unmanned Systems (PISB). (For a complete list of TEDIBOA's MoUs, See Table 4).

**Table 4:
MoUs on
UAVs Signed
Between TEDIBOA/
MOEA and Foreign
Partners
(2024-2025)**
(Source: TEDIBOA)

Time	Country	Signing Entities	Objectives
Sep 2024	U.S. (Arizona)	Arizona State Government & MOEA (Taiwan)	Deepen collaboration on UAVs and semiconductors, and enhance high-tech personnel exchanges.
Oct 2024	U.S. (Oklahoma)	Oklahoma Defense Industry Association (ODIA) & TEDIBOA (Taiwan)	Establish strategic partnerships and an exchange platform for international drone industry promotion, advanced technology development, and supply chain cooperation.
Nov 2024	Poland	Polish-Taiwanese Chamber of Industry and Commerce & TEDIBOA (Taiwan)	Promote international expansion of the drone industry, develop advanced technologies, and strengthen supply chain collaboration.
Nov 2024	Lithuania	Lithuanian Defence and Security Industry Association & TEDIBOA (Taiwan)	Integrate the drone industry with the European supply chain and strengthen alignment in technologies and business opportunities.
Feb 2025	Latvia	Latvian Federation of Defence and Security Industries (FSDI) & TEDIBOA (Taiwan)	Promote bilateral cooperation in the drone industry and expand regional business opportunities.

Feb 2025	Czech Republic	Czech-Taiwanese Business Chamber (CTBC) & TEDIBOA (Taiwan)	Develop business opportunities for drones in Europe.
Mar 2025	Japan	Japan Drone Consortium (JDC) & TEDIBOA (Taiwan)	Establish a UAV supply chain, with a focus on collaboration in disaster relief operations.
May 2025	Estonia	Estonian Defence and Aerospace Industry Association, Estonia Aviation Cluster & TEDIBOA (Taiwan)	Collaborate on drones, aerospace and related industries.
May 2025	U.S.	Association for Unmanned Vehicle Systems International (AUVSI) & TEDIBOA (Taiwan)	Establish a trusted supply network free from potential adversaries.
June 2025 ³⁸	Japan	Japan UAS Industry Development Association (JUIDA) & TEDIBOA (Taiwan)	Promote the peaceful use of drones and fostering international industrial cooperation.
September 2025 ¹⁰	Ukraine	IRON Lviv cluster & TEDIBOA (Taiwan)	Create a platform for future bilateral industrial cooperation.
December 2025 ³⁹	Poland	Polish Chamber of Unmanned Systems (PISB) & TEDIBOA (Taiwan)	Joint development of a trusted supply chain, cooperation on system integration and critical technologies, regulatory alignment, and cross-border testing and demonstration platforms.

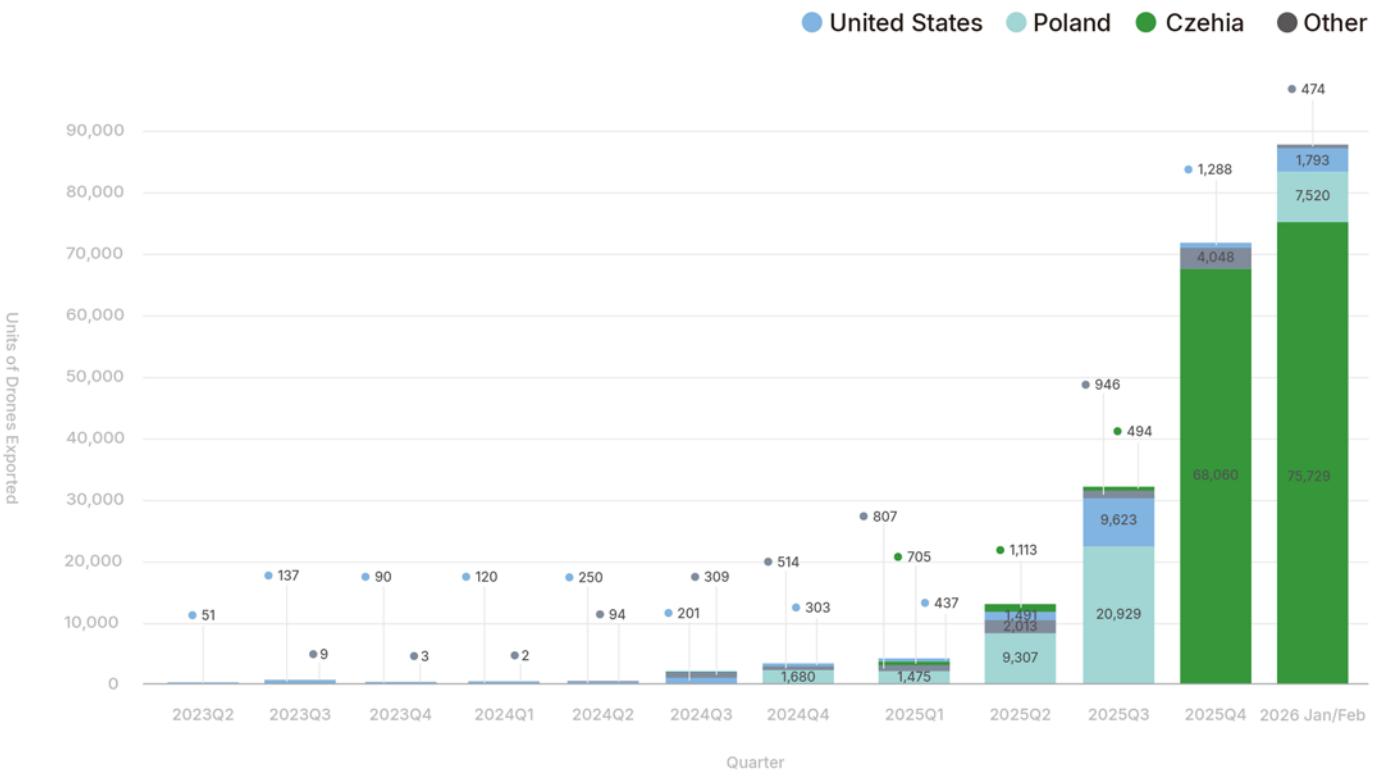
Regionally, Taiwan's effort to enter the U.S. market is marked by the breakthrough addition of Thunder Tiger's FPV 'Overkill' being added to the Blue UAS Cleared list—meaning that it is now eligible for U.S. federal procurement. In parallel, Taiwan's defense and UAV ecosystem have expanded institutional engagement with U.S. firms. For example, NCSIST has signed MoUs with Anduril, Northrop Grumman, AeroVironment, and MARTAC.⁴⁰ There is also an increase of U.S. state government procurement of Taiwanese drones, as evidenced by Oklahoma's MoU with Taiwan in September 2024.⁴¹

In the European region, DSET interviews indicate a rising demand in Central and Eastern Europe for non-PRC UAV components, especially motors and battery cells. As a result, Foreign Minister Lin Chia-lung has confirmed joint ventures in Poland and cooperation with the Baltic states and Czechia.⁴² Additionally, Ahamani, a Taiwanese UAV motor manufacturer, is reportedly planning to build a motor plant in Lithuania next year, targeting the production of 100,000 units per month, which would make it the largest UAV motor facility in Europe⁴³

Indo-pacific cooperation, however, remains limited to exploratory frameworks rather than the hard procurement seen in the West. In Japan, while the Taiwan Excellence Drone International Business Opportunities Alliance (TEDIBOA) signed a supply chain MoU with the Japan UAS Industry Development Association (JUIDA) in June 2025 to integrate Taiwanese chips with Japanese precision mechanics, the lack of mutual certification standards has stalled procurement efforts.⁴⁴ Similarly, cooperation with the Philippines is currently defined by recent efforts for 'drone diplomacy', in which Taiwan hopes to donate drones to like minded allies.⁴⁵ Along with this, there have been discussions focused on using the Philippines as a potential testing ground for Taiwanese systems.⁴⁶

Overall, Taiwan's 2023-2025 export data reflects the increased interaction between Taiwan's budding UAV industry and foreign counterparts. Specifically, in 2025, there were 122,706 drone units exported, a 35.5x increase from 2024 exports.³ These exports are valued at NT\$2.95 billion (US\$94.4 million), a 20-fold increase from NT\$140 million (US\$4.5 million) in 2024.² (See Graph 1). Moreover, in January–February 2026, exports reached roughly 85,500 units, representing a 35-fold increase compared with the same period in the previous year.

Graph 1: Taiwan's Exports By Country 2023-2026
 (Source: Taiwan's Ministry of Finance, Compiled by DSET)



**Pillar 2:
Building
Technological
Capabilities Via
Domestic Subsidies
and International
Partnerships**

Since 2023, Taiwan has used targeted subsidy programs to close capability gaps in its drone sector and to localize enabling technologies. Not only has the MOEA designated the development of the "**three chips**" (flight-control, communications, and navigation/sensing chips) and the "**two software**" (flight-control software and ground control software) systems as the core framework of its UAV subsidy program, but it has also paired this effort with **international cooperation** to accelerate technology development, testing and validation, and adoption into trusted markets.

According to the MOEA, critical technology gaps fall into two categories based on domestic capability maturity⁴⁷:

- 1) **Technologies with Insufficient Domestic Capability That Need Indigenous Breakthroughs:** AI-enabled flight control software, infrared (IR) and thermal imaging systems, and laser rangefinders
- 2) **Technologies with an Established Domestic Foundation, But Have Limited Scale and Production Readiness:** communications integrated circuits (ICs), GNSS/GPS ICs, flight control processors, and ground control.

Policy implementation is anchored in two main government programs (See Table 5). On the civilian-industrial side, the MOEA's subsidy effort has emphasized UAV-specific chips and modules, including AI vision chips, flight-control systems, and secure communications modules. In September 2025, the MOEA approved seven funded projects, prioritizing AI vision modules and cost-effective flight-control solutions, with requirements oriented toward system-level validation and steps toward production readiness.⁴⁸ On the defense R&D side, the MND has launched a cross-domain program for 2026-2028 to integrate the government, industry, and academia in developing core unmanned-system enabling technologies across air, surface, and subsurface domains.

Table 5: Taiwan UAV & IC Design Subsidy Programs (2024–2029)

(Source: Official Taiwanese Government Sources, compiled by DSET)

Program	Lead Agency	Core Objective	Primary Focus Areas	Budget Scale
UAV Key Chips and Modules Indigenous R&D Subsidy Program	MOEA / DoIT	Reduce reliance on foreign core UAV technologies	Low-cost flight controller AI vision ICs communications ICs (long-range / anti-jamming)	First round: NT\$326 million (USD\$10.2 million)
Advanced Development Incentive Program for Domestic IC Design Firms	MOEA / IDA	Strengthen domestic IC design and accelerate system deployment	Communications, LiDAR, thermal imaging, GPS ICs; system-level core ICc	2024: NTD\$8 billion (USD \$253million) 2025: NT\$13 billion (USD \$412 million) 2026 (proposed): NT\$20 billion (USD \$633 million)
IC Design Summit Incentive Program	MOEA / DoIT	Support frontier, globally competitive IC and system technologies	Advanced IC design, pilot production, high-risk/high-performance systems (UAV-weighted)	2026: NT\$27 billion (USD \$855 million)

Advanced UAV Technology R&D and International Market Acceleration Subsidy Program	MOEA / DoIT	Close system-level and module-level capability gaps; accelerate commercialization	Complete UAV systems; flight control, communications, payloads, propulsion; real-world validation	TBD
Advanced Unmanned Systems Multi-Domain Integrated Technology Development Program	MND / Armaments Bureau	R&D in dual-use unmanned systems and enabling technologies	EO/laser payloads, anti-jamming comms, navigation, composites, radar modules	NT \$1.01 billion (USD \$32 million) between 2026-2028
Civil-Military Dual-Use UAV Capability Development Program	MOEA / IDA	Strengthen key UAV technologies and mass-production capabilities; advance system integration, mission applications, and end-to-end manufacturing capacity	<ol style="list-style-type: none"> 1. Dual-use unmanned systems (payloads; communications, flight control and ground control ICs and modules) 2. AI-enabled applications (image recognition, autonomous flight, mission software, and IC integration) 3. Module Optimization (advanced materials and lightweight airframe structures, and high-performance propulsion systems) 4. C-UAS (passive radar, active radar, and electronic jamming systems) 	TBD

As aforementioned, Taiwan has simultaneously expanded international cooperation to accelerate capability development, testing and validation, and trusted-market access. This takes two main forms: **(1) association-led cooperation** to catalyze cross-border partnerships, and **(2) firm-to-firm collaboration** to integrate mature overseas technologies—especially autonomy software, sensing, and operational experience—into Taiwanese platforms.

At the firm level, cross-border partnerships have increased. DSET's research indicates that at least 33 MoUs were signed between Taiwanese UAV companies and foreign partners between June and September 2025, with the United States accounting for the largest share.⁴⁰ This time period was chosen for assessment due to the surge in MoUs caused by Taiwan's Aerospace and Defense Technology Exhibition (TADTE) in September and Taiwan's announcement of UAV military tenders. During this timeframe, approximately one-quarter of these agreements focused on distribution or agency arrangements to support overseas market entry. (See the complete breakdown of Taiwan's International UAV MoUs from June to September 2025 in Table 6).

Table 6: Taiwan International UAV MoUs (June-September 2025)

(Sources: International news outlets and company press releases, compiled by DSET)

	Parties Involved	Date Signed	Countries	Category	Focus Area
1	NCSIST (National Chung-Shan Institute of Science and Technology) + Auterion ⁴⁹	2025/06/17	Taiwan + Swiss-American	Drone Software	Long-term partnership to adopt Ukraine combat-tested modular open-source UAV software.
2	Thunder Tiger (雷虎科技) + Auterion ⁵⁰	2025/06/25	Taiwan + Swiss-American	Drone Software / AI Integration	MoU to integrate Auterion's AI & autonomy stack across Thunder Tiger's entire UxV portfolio (air/land/sea), boosting real-time targeting, navigation, and overall mission performance.
3	Aeroprobing Inc. (翔探科技) + Blue Innovation Co., Ltd. ³⁸	2025/07/01	Taiwan + Japan	Strategic Alliance	Strengthen the drone-based solutions in Japan and overseas markets.
4	AbonMax (銘旺科技) + GMG Trading ³⁸	2025/07/30	Taiwan + Japan	Strategic Alliance	Joint development of drone products and application solutions, which covers agricultural monitoring, patrol inspections of energy facilities, logistics, and defense.

5	Sysgration (系統電) + Vantage Robotics ⁵¹	2025/08/19	Taiwan + USA	Strategic Alliance	Cooperation on AI edge computing and UAV solutions.
6	Industrial Technology Research Institute (ITRI) + Kawasaki Heavy Industries, Ltd. ³⁸	2025/08/29	Taiwan + Japan	Strategic Alliance	Market research and industrial layout planning in Taiwan, focusing on smart robots, drones, and green sustainable technologies.
7	Taiwan Defense Industry Association + Polish Taiwan Business Association; + Lviv Tech (IRON) Cluster ⁵²	2025/09/03	Taiwan + Poland + Ukraine	Industry MoU	Association-level MoU to promote international connections and UAV business collaboration.
8	Sysgration (系統電) + Quantum Systems ⁵³	2025/09/11	Taiwan + Germany	Strategic Alliance / eVTOL-ISR	Alliance to introduce German eVTOL ISR platforms and develop AI edge-enabled UAV systems.
9	AIDC (漢翔) + Shield AI ⁵⁴	2025/09/15	Taiwan + USA	Full UAS Ecosystem	AIDC handles local maintenance; Shield AI trains Taiwanese engineers; potential to substitute U.S. system components with Taiwan-made parts.

10	Apex Aviation (安捷航空) + Tekever ⁵⁵	2025/09/18	Taiwan + Portugal	ISR/Training (MUM-T)	Introduced AR3 UAV with combat experience; promoting manned-unmanned teaming and pilot training integration.
11	EJAT (益捷) + Edge Autonomy ⁵⁶	2025/09/18	Taiwan + USA/Latvia	Distribution/ Agency	Became exclusive authorized distributor for Taiwan and Southeast Asia.
12	EJAT (益捷) + Safesky Systems ⁵⁷	2025/09/18	Taiwan + USA	Distribution/ Agency	Authorized distributor for Safesky Systems (e.g., BMR2 "Peregrine" urban-operations drone, VTRX, Sentinel).
13	EJAT (益捷) + Aerovel ⁵⁷	2025/09/18	Taiwan + USA	Distribution/ Agency	Distributor for Aerovel Flexrotor UAV in Taiwan/APAC.
14	EJAT (益捷) + iRed ⁵⁷	2025/09/18	Taiwan + UK	Distribution/ Agency	Distributor/partner for UK-based iRed (thermal imaging & drone solutions).
15	EJAT (益捷) + Ascent AeroSystems ⁵⁷	2025/09/18	Taiwan + USA	Distribution/ Agency	Distributor for Ascent AeroSystems (e.g., Spirit, NX30 coaxial UAVs).
16	EJAT (益捷) + IXI ⁵⁷	2025/09/18	Taiwan + USA	C-UAS Agency	Distributor for IXI electronic-warfare "Music On" anti-drone system and drone jammers.

17	EJAT (益捷) + Elbit Systems (ReDrone) ⁵⁷	2025/09/18	Taiwan + Israel	C-UAS Agency	Authorized distributor/integrator for Elbit ReDrone counter-UAS solution.
18	Solutions Consulting (方案諮詢) + BRINC Drones ⁵⁸	2025/09/18	Taiwan + USA	Supply Chain / Tactical UAV	Serves as an important Asian supply-chain partner for BRINC drones , known for window-breaching UAVs deployed in Ukraine.
19	NCSIST + AeroVironment ⁵⁹	2025/09/18	Taiwan + USA	General-purpose military and civilian UAV system	Collaborating with NCSIST's Institute of Aeronautics and Astronautics.
20	NCSIST + Anduril ⁶⁰	2025/09/19	Taiwan + USA	Low-cost Autonomous Cruise Missile (Loitering Munition) and Autonomous Unmanned Multi-Purpose Vehicle (Drive-LD)	Collaborating with NCSIST's Shenlong Project team.
21	NCSIST + Airshare ⁶¹	2025/09/19	Taiwan + Canada	Interceptor UX ribbon rocket, as well radar, electro-optical systems, and jammer capabilities	Collaborating with NCSIST's Institute of Electronics to neutralize hostile drones and protect military units and critical infrastructure.

22	NCSIST + MARTAC ⁶¹	2025/09/19	Taiwan + USA	Joint unmanned boat project with AI-based target recognition and tracking	Collaborating with NCSIST's Shenlong Project team.
23	NCSIST + Northrop Grumman ⁶²	2025/9/19	Taiwan + USA	Air and Missile Defense Capabilities	Collaboration on air and missile defense modernization.
24	Ramatek Company, Champion Auto, and Vivian + Northrop Grumman ⁶³	2025/9/19	Taiwan + USA	AN/TPS/78 Advanced Capabilities Radar	Advanced radar capabilities.
25	AIDC + Maxar ⁶⁴	2025/09/19	Taiwan + USA	Drone flight precision	Cooperation with Maxar to enhance UAV precision flight and geospatial intelligence.
26	Carbon-Based Tech (碳基科技) + Markforged ⁶⁵	2025/09/19	Taiwan + USA	3D printing technology	Partnership to adopt aerospace-grade 3D printing for UAV critical parts.
27	Carbon-Based Tech (碳基科技) + AbonMax + Bosa Industrial Group ⁶⁶	2025/09/19	Taiwan + USA	Strategic Partnership	Cooperate in aerospace-grade composite materials, AI-enabled intelligent flight system, and modular design.

28	Fong Jaw Aerospace (豐兆) + RH Thomas & Associates + AscendX Tactical ⁶⁷	2025/09/19	Taiwan + USA	Strategic Partnership	Strategic alliance to expand tactical UAV and aerospace applications.
29	AIDC + Orbital Composites ⁶⁸	2025/09/19	Taiwan + USA	Carbon fiber composite 3D printing technology	Collaboration on carbon fiber composite 3D printing technologies for aerospace/UAVs.
30	Jiin Ming (錦明實業) + ELEVONX ⁶⁹	2025/09/19	Taiwan + Slovenia	Distribution/Market Development	Partnership to distribute Tango™ eVTOL UAV in Taiwan and APAC.
31	TAIPO Taiwan + Poland Chamber of Commerce ⁷⁰	2025/9/19	Taiwan + Poland	Industry MoU	Cooperation between Polish Chamber of Commerce and companies associated with TAIPO – Taiwanese-Polish Chamber of Commerce.
32	Jiin Ming (錦明實業) + PolTaiw Apex ⁷¹	2025/09/21	Taiwan + Poland	Strategic MoU	Signed MoU with Polish partner to strengthen UAV market entry into Europe.

33	Ahamani (其易) — Poland plant plan ⁷²	2025/09/25	Taiwan + Poland (+ South Korea interest)	Investment/ Factory	Announced UAV motor factory in Poland; also in talks with Korean UAV manufacturer to purchase non-China- made motors.
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Overall, Taiwan has begun signaling an outward-facing 'drone diplomacy' posture. In October 2025, the head of the Ministry of Foreign Affairs' (MOFA) Department of Non-Governmental Organization (NGO) and International Affairs announced a shift in UAV foreign policy, aiming to supply drones to allies and like-minded European partners facing Russian aggression.⁴⁵ Officials noted the planning of a new 'drone diplomacy task force' which will donate civilian drones in two phases to diplomatic allies including Asia-Pacific nations such as Japan and the Philippines, and Central and Eastern European nations including Estonia, Latvia, Lithuania, Poland, Czechia, and Germany.⁴⁵

In a broader view, Taiwan's association-led and firm-to-firm collaborations take form in different manners when interacting with various countries. Based on each country's technological or manufacturing strengths, weaknesses, and supply chain demands—as well as government-to-government ties with Taiwan or lack of—cooperation is uniquely constituted to meet each actor's needs. For example, as Ukraine has reached 95% capacity for final assembly, international cooperation on both a country level and firm level equate to component exports.^{12,72} Still, the countries which Taiwan has the most significant exports to are predominantly the same countries that Taiwan has signed MoUs with. (See Table 7 and 8 for international cooperation examples and models).

Table 7: International Cooperation Examples By Country

(Sources: International news outlets and company press releases, compiled by DSET)

Partner	Example(s)
U.S.	NCSIST × Auterion: Autonomy stack adoption (Auterion OS + Nemesis swarm ops platform) ⁷⁴
	NCSIST × AeroVironment: Lifecycle sustainment package (tech support, training, sustainment processes for JUMP 20) ⁵⁹
	NCSIST × Anduril: Command and control / mission-system integration options (Lattice OS AI-enabled command-and-control) ⁷⁵
	NCSIST × MARTAC: Uncrewed surface vessels (USVs) integration (co-production and technology-sharing initiatives) ⁷⁶
	NCSIST × Kratos: Co-production / localized production + flight testing (Mighty Hornet IV co-production + US live flight testing; USV localized production) ⁷⁷
	NCSIST × Airshare: Counter-UAS integration upgrades (Interceptor UX integration; radar/electro-optical (EO)/electronic warfare (EW) upgrade path) ⁷⁸
European Union	TEDIBOA × Polish Drone and Robotics Association (PISB): Certification & procurement requirements alignment (reduce entry barriers), joint testing/validation/demonstration sites ⁷⁹
	Asia UAV AI Innovation Application R&D Center + Taiwan National Drone Industry Associations × TÜV Rheinland × STMicroelectronics: EU notified body regulatory validation (TÜV Rheinland role), design-alignment support (semiconductor & sensing expertise from STMicroelectronics) ⁸⁰
Japan	TEDIBOA × JDC/JUIDA: supply-chain integration, market linkage; demonstration projects (disaster response, emergency operations); autonomous flight testing (application-driven trials) ^{81,82}
Ukraine	TEDIBOA × IRON Lviv Cluster platform for industry cooperation ¹⁰

Table 8: Taiwan–Partner UAV Cooperation Models

(Sources: Government documents, international news reports, and anonymized interviews, compiled by DSET)

Evidence layer	Indicator	US	Japan	Ukraine	Poland	Lithuania	Czechia	France	Germany	UK	Austria
Layer A: Policy signals	A1. Official Strategic Inclusion	✓	—	—	—	—	—	—	—	—	—
Layer B: Institutional channel signals	B1. Quasi-Official Industry Framework	✓	✓	✓	✓	✓	✓	—	—	—	—
Layer C: Operational cooperation signals (projects, capabilities, industrial activity)	C1. Technology sharing / co-development / co-production initiatives	✓	—	—	—	—	—	—	—	—	—
	C2. Foreign government purchases / contract awards to Taiwanese vendors	✓	—	—	—	—	—	—	—	—	—
	C3. Certification alignment	✓	—	—	—	—	—	—	—	—	—

C4. R&D cooperation
 institutional or firm-level R&D projects visible in open sources/ interviews

✓ ✓ ✓ — — ✓ ✓ — — —

C5. Component / Subsystem Sourcing

✓ ✓ ✓ ✓ ✓ ✓ — — — —

C6. Local Investment / Facilities
 assembly, factories, service hubs

✓ — — ✓ ✓ — — — — —

C7. Firm-level Project Deals / B2B MoUs
 integration packages, project contracts

✓ ✓ ✓ ✓ ✓ ✓ ✓ ✓ ✓ —

Layer D: Market Signals

D1. Recorded Trade Flows
 in official statistics

✓ ✓ ✓ ✓ ✓ ✓ ✓ ✓ ✓ ✓

Legend
 ✓ = Documented / Verifiable
 — = No Evidence Found

**Pillar 3:
Building
Technology
Clusters and
Expanding
Testing
Infrastructure**

Intending to shorten the gap between R&D and scaled production, Taiwan has been building shared infrastructure to reduce fragmentation across the drone supply chain. Two government-backed facilities play distinct roles: the Minxiong Aerospace and UAV Industrial Park and the Asia UAV AI Innovation Application R&D Center.

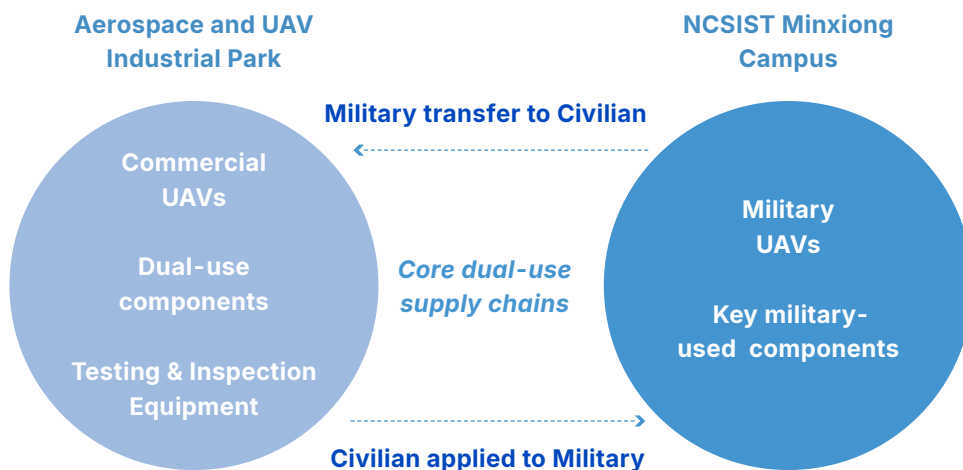
The **Minxiong Aerospace and UAV Industrial Park** is designed as a manufacturing and system-integration cluster for dual-use—civilian and military—aerospace and unmanned systems. Approved by the Executive Yuan in 2020, and developed in coordination with the National Chung-Shan Institute of Science and Technology (NCSIST) a state-owned defense R&D and systems integration institute, the park aims to support the development and production of mid to large-sized drones.⁸³

The park is designed as a co-located cluster that integrates R&D, system integration, manufacturing, testing, validation, and certification functions. Development is divided into two linked zones: an Eastern Zone (NCSIST Zone) expected to begin operations in 2026, and a Western Zone (Industrial Zone) for private-sector manufacturers and suppliers, with construction planned for 2026–2028 and initial tenant occupancy scheduled for 2028.⁸⁴ Planned infrastructure includes shared management facilities, standardized factory units, hangars, dedicated testing areas, and leased parcels for customized facilities.

This cluster strategy is complemented by the **Asia UAV AI Innovation Application R&D Center** ("Asia UAV Center"). It functions primarily as **an applied R&D and integration hub**: it convenes firms, research organizations, and universities to develop, test, and validate UAV-related technologies—especially AI and software-enabled applications. This allows technological theories and concepts to be translated into workable prototypes and deployable solutions.

In terms of implementation progress, the Asia UAV Center has been operating since 2022 and is positioned as a national platform for applied innovation and cross-sector collaboration—with the government planning an expansion phase to increase its capacity. The Minxiong industrial park, initiated earlier as a dedicated dual-use industrial base in Chiayi, is being developed in phases. NCSIST facilities are planned to be established first, followed by allocations for additional private-sector space as the cluster matures.

Graph 2:
Minxiong
Aerospace UAV
Industrial Park &
The Asia UAV AI
Innovation
Application R&D
Center's Main
Functions
 (Source: Ministry of
 Economic Affairs⁴⁷)



Concurrently, Taiwan has begun expanding testing infrastructure. Government planning calls for the development of more than 18 test ranges of different sizes, and relevant agencies have identified Hengchun Airport (Pingtung) and Shui-shang Air Base (Chiayi) as candidate locations for medium and large UAV testing, including higher-altitude and wider-area testing, subject to interagency airspace coordination and safety management measures.

Lastly, this pillar includes the establishment of unmanned-systems innovation laboratories in Tainan's Shalun and Liujia districts, with a stated focus on developing drones capable of operating in harsh or contested environments and an expected output of 26 innovative drone models.

**Pillar 4:
Aligning Rules
and Certification
for A Trusted
Supply Chain**

Taiwan is expanding the bureaucratic infrastructure that regulates uncrewed system testing, procurement by government agencies, imports, exports, and acceptance in trusted overseas markets. This work spans four main tracks: updating domestic UAV rules and testing standards; standardizing public-sector procurement and use guidelines; developing management rules for uncrewed surface and underwater vessels (USVs/UUVs); and improving certification and authorization capacity with greater international recognition.

To better align certification and market access with allies' requirements, Taiwan has begun linking parts of its industrial base to U.S. trusted-technology frameworks. On September 20th, 2025, Taiwan's Thunder Tiger became the first Taiwanese firm to add its "Overkill" FPV drone to the U.S. Blue UAS Cleared List.^{85,86} Additionally, in January 2026, the Association for Uncrewed Vehicle Systems International (AUVSI) and Taiwan's Industrial Technology Research Institute (ITRI) announced a cooperation agreement under which ITRI will participate in AUVSI's Green UAS program—a streamlined certification pathway aligned with Blue UAS Cleared status—as a Recognized Cybersecurity Assessor^{87,88} The division of labor under this arrangement is explicit: supply-chain vetting and NDAA-related compliance determinations remain centralized with AUVSI in the United States—supported by its partnership with Altana—while ITRI conducts cybersecurity testing, penetration testing, and technical cyber evaluations.

At the bilateral level, this certification alignment enables institutionalization of U.S.–Taiwan cooperation by strengthening trusted supply chains while translating regulatory alignment into concrete market access and deeper defense-industrial integration.

This cooperation has three key implications. First, it designates Taiwan as the first non-U.S. location authorized to conduct Green UAS–aligned cybersecurity assessments. Second, AUVSI-led training enables ITRI to internalize U.S. cybersecurity methodologies and benchmarks,

thereby expanding in-country testing capacity that is aligned with U.S. standards. Third, interviews conducted by DSET indicate that Taiwan's existing domestic vetting mechanisms have been less stringent than U.S. and international practices—particularly with respect to internal UAV communications and system-level cybersecurity—allowing this cooperation to directly address this gap.

Alignment with U.S.-level cybersecurity standards generate both indirect and direct benefits for Taiwanese firms. Indirectly, it raises product-level cyber resilience while elevating enterprise cybersecurity and supply-chain risk management. These are all core compliance requirements under Green UAS in the "Corporate Cyber Hygiene" and "Supply Chain Risk Management" categories.⁸⁸ More directly, Green UAS certification is functionally equivalent to Blue UAS eligibility. For firms targeting U.S. federal and Department of War procurement, Green UAS certification consequently serves as a de facto market-entry prerequisite. Simultaneously, firms focused on U.S. state-level procurement and commercial markets are subject to FCC regulations, meaning that they gain regulatory clearance through FCC-recognized exemption pathways—like Green UAS certification.⁸⁹

Alongside this key development, Taiwan's AIDC and NCSIST have attained cybersecurity assurance from the U.S. Department of War cybersecurity via the Cybersecurity Maturity Model Certification (CMMC) program, reflecting a broader effort to align with U.S. defense supply-chain compliance expectations.^{90,91}

In harmony with these external milestones is a distinct domestic governance framework designed to manage security and procurement within Taiwan. Domestically, Taiwan's UAV governance is overseen by multiple agencies: flight safety, airspace management, and civil certification sit with the Civil Aeronautics Administration (CAA); communications compliance is overseen by the National Communications Commission (NCC); product safety by the Bureau of Standards, Metrology

and Inspection (BSMI); and cybersecurity assessments by the Ministry of Digital Affairs (MODA). On the public-procurement side, the Executive Yuan has issued restrictions on government agencies from procuring PRC-made Information and Communication Technology (ICT) products—covering network-connected, data-processing systems—while the MND applies stricter "non-PRC" sourcing requirements for military UAVs.

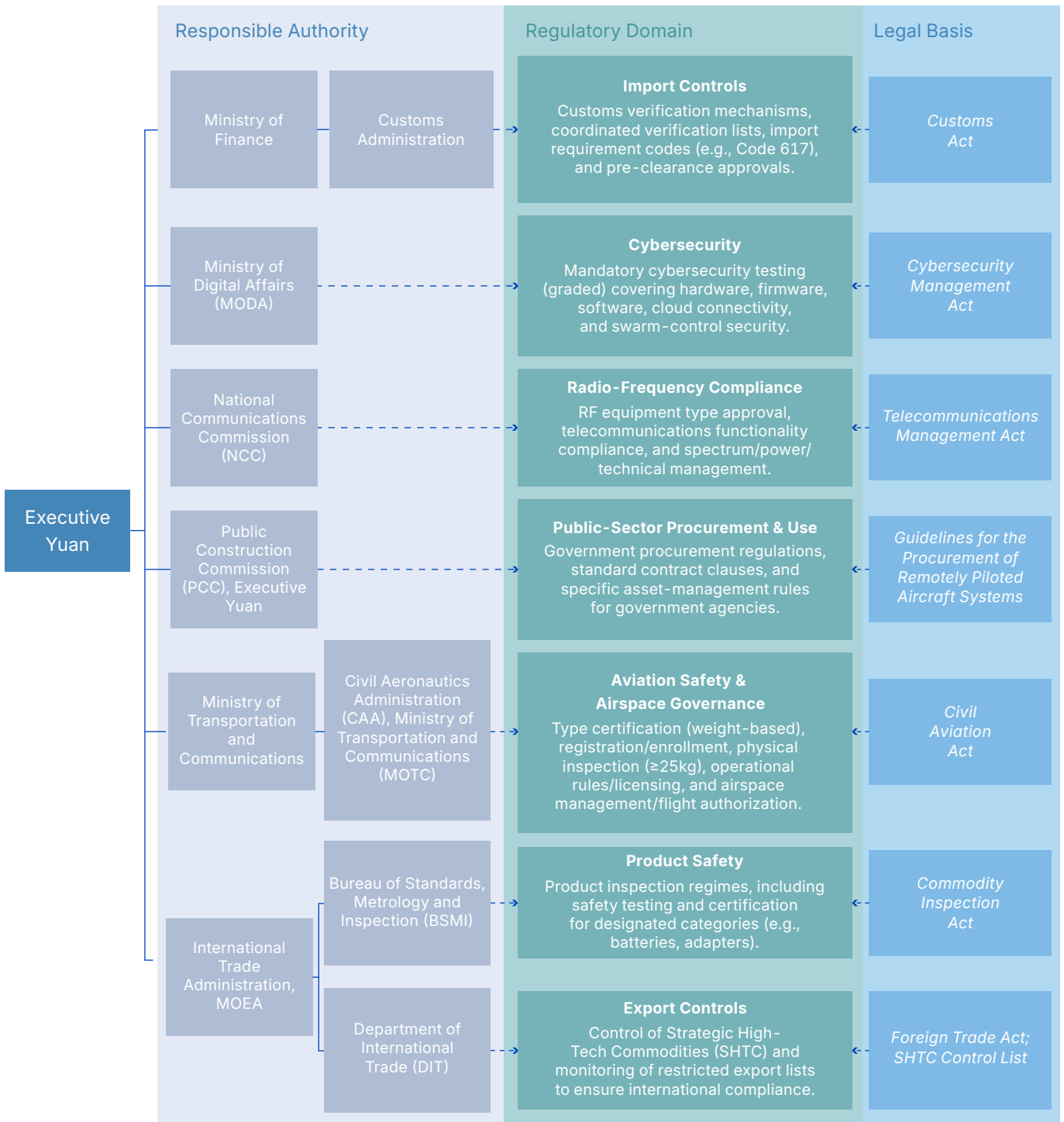
Distinctly, unlike CAA-certified commercial UAVs classified under HS Code 8807, the export of military-grade commercial UAV systems in Taiwan is formally subject to the *Regulations Governing the Export of Strategic High-Tech Commodities*, which require case-by-case export licensing review. In practice, however, Taiwan has not yet established a dedicated operational or procedural framework to enable such exports. This regulatory gap may be rooted in the historical structure of Taiwan's military UAV development, which was led predominantly by the National Chung-Shan Institute of Science and Technology (NCSIST) with comparatively limited participation from private manufacturers, thereby delaying the emergence of a civilian-industry-oriented export governance regime.

Regulatory tightening introduced in December 2025 has addressed only the import control dimension, mandating Ministry of National Defense (MND) authorization documentation for the importation of military remote-controlled UAVs, without establishing a corresponding export control architecture.

Responding to a legislative interpellation, Minister of National Defense Wellington Koo stated that the formulation of UAV export regulations should proceed through cross-ministerial coordination under the National Security Council (NSC).⁹² The NSC is expected to issue strategic policy guidance, under which the MND, in coordination with the Ministry of Economic Affairs (MOEA), will develop the institutional and regulatory mechanisms necessary to govern military UAV exports. (For a complete breakdown of Taiwan's UAV governance, see Table 9).

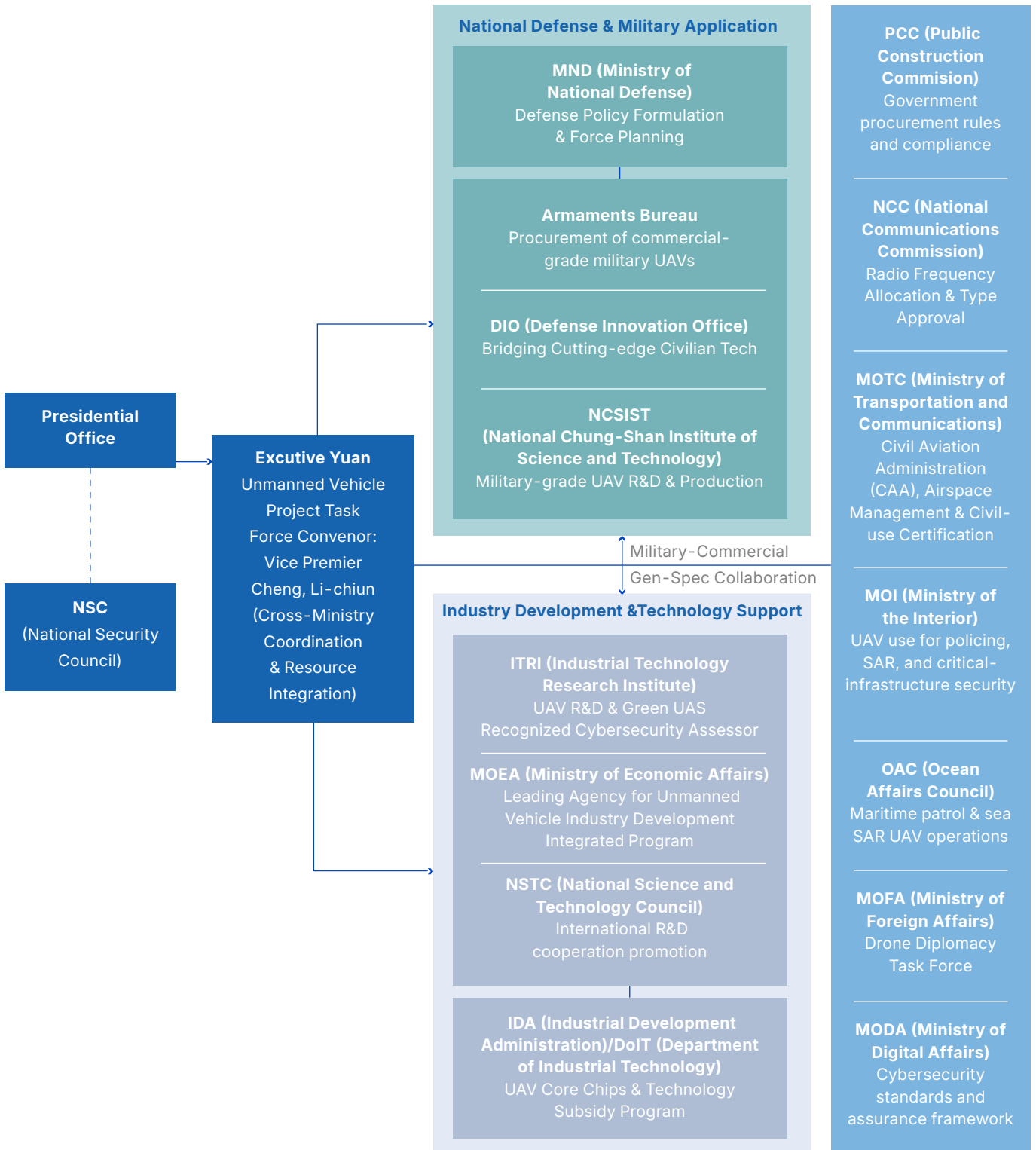
Graph3 : Taiwan's Regulatory Framework for Uncrewed Aerial Systems

(Source: government documents complied by DSET)



Graph 4: Taiwan's Governance and Command Structure for Uncrewed Aerial Systems

(Source: government documents complied by DSET)



All progress considered, recent UAV policies are mostly directed towards import and export governance and aligning certification with trusted supply chain frameworks, such as Blue UAS. Additionally, Taiwan has tightened trade controls by requiring prior authorization for importing drones with a maximum takeoff weight of 2 kilograms or more before customs clearance.⁹³ Regarding exports, both drones and related critical components are regulated under Taiwan's Foreign Trade Act and the Strategic High-Tech Commodities (SHTC) List. For the latter, in November 2025, an additional eighteen items were added, covering precision sensors, semiconductors, and specialty materials associated with advanced or autonomous drone systems.⁹⁴ Generally, restrictions have expanded since Russia's invasion of Ukraine to cover a wider range of dual-use items commonly used in drones.⁹⁴

In the last year, Taiwan has taken giant strides towards establishing a more mature, self-reliant, and 'non-red' drone ecosystem. This reflects a strategic shift towards the asymmetric employment of UAVs in Taiwan's national defense planning. As demonstrated by Ukraine, drones are now a prerequisite for security and managing conflict. By expanding domestic and international demand; fostering technological advancement and international cooperation; forming industry clusters and ecosystems; and improving regulatory frameworks for unmanned vehicles, Taiwan is positioning itself to meet an increasingly complex security environment. In conjunction, Taiwan's distinct defence needs and market economy will benefit.

Part II.

Ukraine's Overall UAV Policy Structure & Ecosystem

Since the full scale Russian invasion, Ukrainian policy makers have implemented various laws, regulations, and other administrative measures relating to drones. Diverging from peacetime, laws have undergone significant transformations in order to simplify wartime operational usage rules, accelerate development, and streamline UAV procurement for military use. As UAVs became a non-negotiable strategic priority, Ukraine aims to stimulate domestic production through tax and import incentives and provide a clear regulatory framework for streamlined deployment. Some notable changes include:

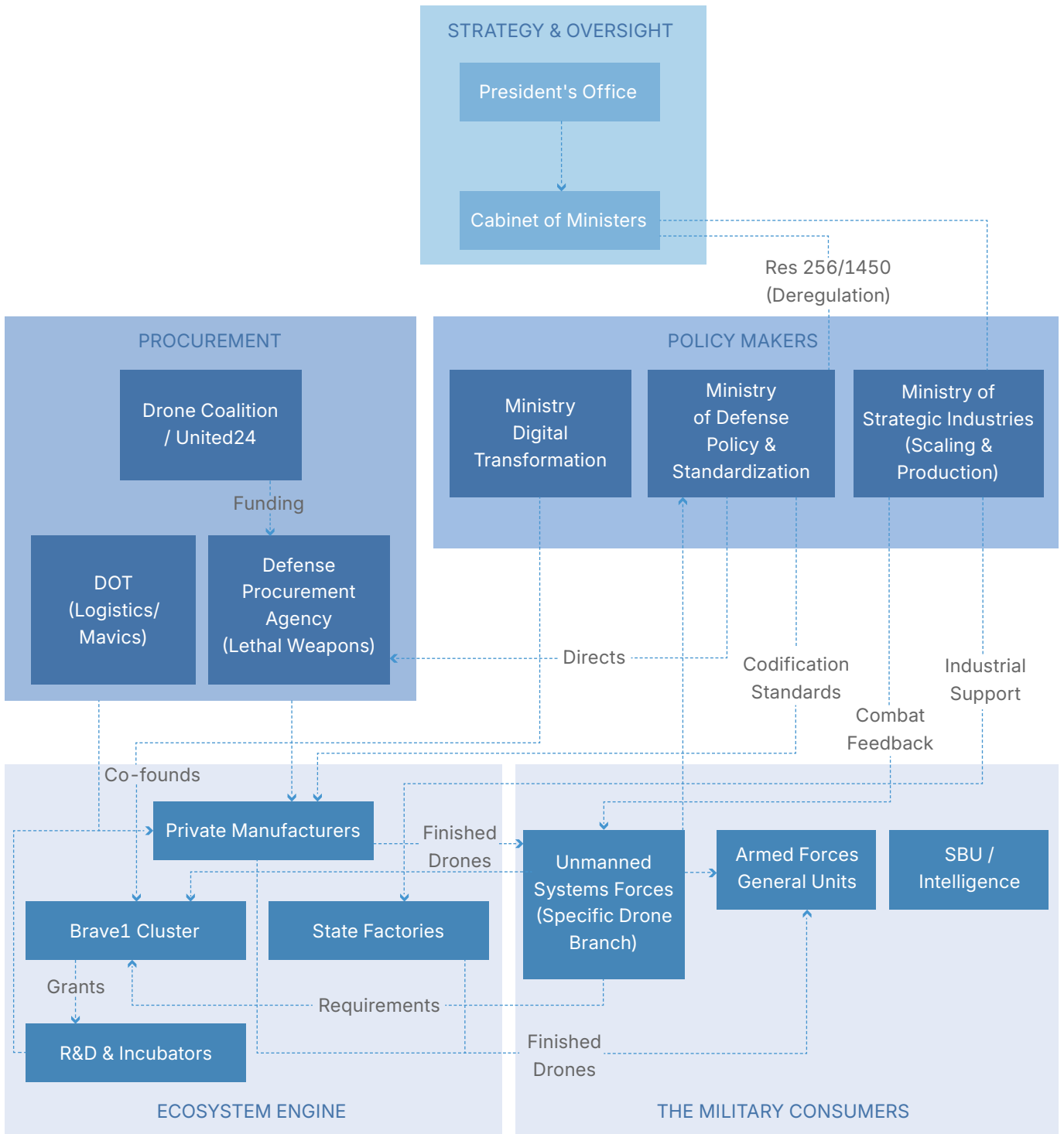
- **Establishment of the Unmanned Systems Forces (USF):** President Zelensky signed Decree No. 51/2024 for the creation of a separate branch of the armed forces dedicated solely to drones; it became formalized with Law No. 11507.^{95,96}
- **Cabinet of Minister's Resolution No. 256 and Resolution 1275:** Resolution No. 256 permitted a 'fast track' acquisition of UAVs and EW equipment under martial law by decreasing bureaucratic formalities and incentivizing domestic production by raising the profit share to 25%.⁹⁷ However, as it was only effective until March 2025, Resolution 1275 upholds this framework.⁹⁸
- **Law 4303 'Diia City' and Resolution 787:** This law adopted a distinctive legal and tax framework for IT/tech companies making it easier and less expensive to operate. Resolution 787 expanded eligibility to incorporate unmanned vehicle design, production, or training organizations.⁹⁹
- **Brave1:** Government mechanism which awards drone companies and start-ups various R&D grants. This includes support of 3,600+ defense tech projects, with 540+ grants, and 52Million USD+ in funding.¹⁰⁰ It also connects companies with foreign investors and cooperates with the European Defense Innovation Office.²⁵

- **Defence Procurement Agency (DPA) UAV Procurement Model:** Provides for direct contracts with verified manufacturers.¹⁰¹
- **Law 14169 and Law 14170:** Broadens tax exemptions from VAT (Value Added Tax) on incoming defense materials and streamlines the customs process for their import.¹⁰² This covers both finished drones and their components.
- **Defence City:** A legal regime which supports the defence industry by providing tax breaks until 2036, offers simplified customs procedures, and contributes to production facility relocation and security.¹⁰⁰
- **Zbroya:** Created by the Ministry of Strategic Industries. Services consist of approving enterprises' critical status; reserving employees; offering loans and grants; leasing equipment and machinery; providing a digital database for Ukrainian components manufacturers; allows access to a professional testing range; and approves codifications.¹⁰³

These revisions and additions from policy makers—the president, the Ministry of Digital transformation, the Ministry of Defense, and Ministry of Internal Affairs—affect the whole UAV ecosystem. This encompasses R&D Centers, private manufacturers, the Defense forces of Ukraine, startups, and Defense Associations and Clusters—Tech Force in UA, Iron Cluster, Ukrainian Council of Defense Industry, NAUDI—among others. A rough outline of Ukraine's UAV ecosystem can be seen in Graph 4.

Graph 5: Ukraine's UAV Ecosystem

(Sources: DSET interviews, international news, official government announcements, compiled by DSET)



Part III.

Ukraine's Key UAV Objectives

**Survival,
Adaptation &
Decentralization**

In the year of 2025, drones accounted for 70% of all Russian and Ukrainian casualties, according to the chairman of the Defense and Intelligence Committee in Ukraine's Parliament—making them a core element to Ukraine's asymmetric defense doctrine.¹⁰⁴ Unable to quantitatively compete with Russia's manpower and conventional firepower, UAVs—capable of both intelligence, surveillance, and reconnaissance (ISR) and precision strikes—enable Ukraine to multiply its forces without endangering lives. Accordingly, the most transparent and central objectives for Ukraine's utilization of UAVs is to preserve lives and continue to protect its independence.¹⁰⁰ Urging technology to fight, instead of people, allows for this.

However, as war evolves, so has UAV technology. Technologies and tactics which used to endure six months on the battlefield, now only sustain advantages for a short period of 4-6 weeks before Russian counter advancements overtake them.¹⁰⁵ To keep up with this quick turnover, one of Ukraine's key UAV strategies focuses on adaptability. Notably, "straightforwardness in drone engineering doesn't preclude deepening layers of complexity. High modularity renders drones exceedingly customisable, allowing practitioners to purpose-fit them to specific operational needs", according to researchers at the London School of Economics and Political Science.¹⁰⁶

End user feedback, particularly from Ukrainian Military units themselves, plays a major role in streamlining changes and improvements. With firsthand experiences, these units have striking clarity on what technology works and what does not. According to Better Regulation Delivery Office (BRDO), an independent Ukrainian think tank, out of 80 UAV related manufacturers, 75% gather feedback 'daily' or 'regularly' utilizing messengers, QR codes, or online forms from units on the battlefield.¹⁰⁷

Awareness of this led to the establishment of Ukraine's DOT-Chain Defence System for the procurement and supply of drones. It now provides access to more than 180+ FPV drone models from 90 manufacturers, and is available to 184 brigades of Ukraine's Armed Forces as well as 2 National Guard corps.^{108,109} This digital marketplace allows military units to independently order assets they require, simultaneously signaling to UAV manufacturers which models are proving effective—when a drone confirms its capabilities to consumers, they will procure more. As a byproduct, this structure helps to mitigate corruption in procurement.

In the first two months of its launch, the DOT-Chain Defence System coordinated the sale of nearly 17,000 UAVs worth about UAH 600 million and cut average delivery time down to 10 days.¹¹⁰ In the first four months, 144,000 units of equipment have been delivered.¹⁰⁹ On FPV drones specifically in these 4 months, Ukraine's Ministry of Defense reported sales of 100,000 drones, with nearly one-third of them being fiber-optic-controlled and their delivery time averaged at 7 days.¹⁰⁸

On top of this, the day following integration of electronic warfare (EW) systems into DOT-Chain Defence, the military issued orders totaling nearly UAH 6 million, prompting the government to provide allocated budgets for EW.¹¹¹ Additionally, interceptor drones from 3 manufacturers were recently added to the system—with 3 more manufacturers' interceptor products to be added soon.¹¹² By December 2025, 5,000 interceptor drones were delivered through DOT defense to the military.¹¹³ In January 2026, military units received 1,500 interceptor drones per day.¹¹⁴ These inclusions indicate the pressing need for counter drone systems.

Meanwhile, Taiwan's drone related military procurement tenders span over a period of 1-3 years with no official mechanism in place for rapid system modifications. Taiwan's evolution cycle is currently too slow to allow UAV technology to gain an edge against aggressors' advancements.²³ As a huge part of Ukraine's success lies in its ability to integrate battlefield feedback into production in near real time, Taiwan must acquire the tools for high-speed innovation.

To this point, Ukraine is fighting a land-based battle that offers cover with open borders for resupplying. Taiwan's maritime landscape unquestionably poses both logistical and operational challenges which drones do not have testing experience for in Ukraine. Taiwan must be able to adapt and modify new technologies to fit its unique geography and circumstances. Ukraine's drones cannot be used in Taiwan 'as is'. They would be ineffective, as they are continuously modified to Ukraine's individual frontline demands, local countermeasures, and force concentrations.¹⁰⁶ Thus, while Taiwan's current government procurement tenders lean towards acquiring a majority of FPVs, it should be remembered that FPV strategy primarily focuses on short range conflict—meaning that they would be used when the People's Liberation Army Navy is already landing. A dominant 'FPV only' tactic will not be the case in Taiwan. Considering the Taiwan Strait, Taiwan needs longer range UAVs suited for maritime circumstances to first and foremost prevent a landing. Rather than copying Ukraine's strategy, Taiwan should take away operationalization tips to create rapid iteration cycles.

Another battle-tested truth which the President of Tech Force in UA states clearly: "No state is capable of responding instantly to the changing conditions of war. **The only way to make decisions quickly is through decentralization**".¹⁰⁷ According to DSET interviews with Taiwanese manufacturers, a key lesson guiding Ukrainian success is layered Intelligent Mobile Devices (IMDs) and decentralization.¹¹⁵ Tech Force and

BRDO further validate this claim through their survey in which 88% of UAV companies depend partially on direct procurements by military units, compared to 64% fulfilling government contracts.¹⁰⁷ This is on account of the pace of obsolescence—as Russia equally endeavours to obtain the technological edge, it is unreliable for Ukraine Armed Forces to depend solely on state structures for innovation.¹⁰⁶ Thus, alongside official systems, civil-military networks, private companies, and volunteer groups—like Wild Hornets—magnify weapons modernization by not only delivering thousands of drones to the military, but also engaging and partnering directly with defense forces and receiving their assessments.^{106,116}

Attenuating this issue, The DOT program's astounding results—a central framework for decentralized procurement—have prompted the Ministry of Defense to expand it to cover 70% of all drone procurements and allocate an additional UAH 1.9 billion for that very purpose.^{117,118} The system's average order fulfillment time is still around two weeks.¹¹⁹ This bottom-up procurement style also grants flexibility, as different areas of the frontline have different environments and needs.¹² Even so, this DOT-Defense system relies on the Defence Procurement Agency (DPA) to pre-certify which systems are uploaded onto the platform. And starting January 1, 2026, all military procurement has been centralized under the DPA.¹²⁰ Therefore, the success of this new centralized mandate hinges on a paradox: the DPA must use its authority to protect, rather than dismantle, decentralized pathways.

Moreover, Ukraine has begun implementing the 'Impulse' system which collects data from military units, further empowering evidence-based bottom-up decision making.¹²¹ Notably, this direct feedback loop is not limited to domestic innovations. In conversation with major international drone companies which have joint production models with Ukrainian companies, a similar, continuous improvement cycle exists—with one company stating their Ukrainian counterparts call them nightly to indicate what software needs changing and another physically visiting Ukraine every month to get reviews, help test UAVs, and train units.^{122,123}

Concurrent Localization and Co-Production

Historically dependent on imported Chinese UAV components, Ukraine has two overarching frameworks to combat the susceptibility of its supply chain and meet its own UAV quantity demands: localization and co-production.

Localization ensures consistency of supplies and allows manufacturers to quickly adapt components—whether by changing designs or improving quality—to meet fluctuating demands.¹⁵ Localization includes the domestic production of components and large node assembly. For the latter, Ukraine has mostly reached sovereignty, with 95% of drones finalized domestically.^{12,73} For the former, starting from 2023, Ukraine has rapidly developed its base of manufacturers for some components: it has reached 85% localization of UAV frames and body elements and 50-70% localization of analog video transmitters (VTX) and receivers (VRX), control receivers (RX), transmitters (TX), and antennas.¹⁵ This growth is evidenced as Ukrainian manufacturers on the DOT defense system increased from 46% to 82% in 2025.¹²⁴ Tech Force UA and BRDO's research report corroborates this development with their finding that 22 out of 80 (28%) interviewed Ukrainian UAV manufacturers now utilize at least 50% of Ukrainian components.¹⁰⁷ Still, 14 out of 80 (17%) incur 26-50% of their component costs from China.¹⁰⁷ Thus, while limited, this development aids both operation tempo and the scaling of UAV production.

However, deficiencies remain: Ukraine has only localized production of flight stack (flight controller and ESC/speed controller), electric motors, and thermal imaging cameras up to 25%.¹⁵ Furthermore, digital video transmitters and receivers, day cameras, and a number of specialized electronic modules—semiconductors, microelectronics (Surface-Mount Devices (SMD), Printed Circuit Boards (PCB), On-Screen Display (OSD)) chips—have almost no domestic production in Ukraine.^{12,15,24} On top of this, batteries and magnets for motors are especially critical as they rely on lithium and neodymium—rare earth elements that China has a processing monopoly on.

While promising, Ukraine's domestic manufacturing component capacity can not yet keep up with demand volumes—resulting in it being cheaper to purchase off the shelf Chinese components rather than sourcing raw materials and manufacturing them.²⁴ Chinese components account for the greatest dependency for Ukrainian developments.¹⁵ Additionally, the higher-tech components, particularly microelectronics, have no manufacturing foundations in Ukraine.

These factors culminated in a surge of imported components in 2024 in which Ukraine's total value of imported components escalated 670% compared to 2023—with 88.9% of components from Jan-May imported from China.²⁴ In 2025, in a research report by Iron Cluster and Snake Island Institute, a Ukrainian defense platform and found that 43.6% of UAV manufacturers use a substantial amount (at least 30-70%) of Chinese components and 12.9% use almost all Chinese components (70-100%).¹⁵

Nevertheless, continuous Chinese export restrictions starting from June 2023 on various drones and components have increased costs, delays, and consequent shortages—forcing Ukraine to perpetually acknowledge the necessity of a self-reliant defense (See Table 10 for a timeline of Chinese export restrictions on UAVs). Indeed, in another poll by Snake Island Institute, a Ukrainian research organization, 23 out of 30 (76.7%) manufacturers they engaged with indicated that they would stop buying Chinese components if there were other options available at the same price.²⁴ Further geopolitical factors complicate the situation: Ukraine and China are not allies, with China even "systematically supporting the Russian military-industrial complex".¹⁵

Thus, from a security perspective, while there is a clear desire for repositioning away from Chinese goods, the economic reality is such that Ukraine does not have the financial resources and freedom to go all in on domestic manufacturing nor buy higher priced components of the same kind and quality from its allies.

Table 10: Timeline of Chinese Export Restrictions on UAVs

(Source: International news, compiled by DSET)

Date Implemented	Export Restriction
June 2023	Banned exports of long-range (>7 kg) drones to Russia and Ukraine ¹²⁵
September 2023	<p>Imposed export controls on some consumer-grade UAVs and required export licenses for drone-related items.</p> <p>UAVs that do not already fall under older control criteria, but meet all of these conditions:</p> <ul style="list-style-type: none">• Can fly beyond the operator's natural line of sight.• Have a maximum endurance of 30 minutes or more.• Weigh (maximum take-off weight) over 7 kg, or empty weight over 4 kg. <p>And any of the following characteristics:</p> <ul style="list-style-type: none">• Onboard radio equipment with power exceeding the power limit for internationally approved civil radio products.• Has a drop device or payload with drop function.• Equipped with a hyperspectral or multispectral camera supporting wavelengths beyond 560 nm, 650 nm, 730 nm or 860 nm. <p>Equipped with an infrared camera with a noise equivalent temperature difference (NETD) < 40 mK.</p>

- Carrying a laser rangefinder module meeting one of the detailed technical specs:
 - Class 3R, 3B or 4 laser under GB 7247.1-2012.
 - Or Class 1 laser with AEL ≥ 263.89 nJ, reference aperture > 22 mm, max pulse power (5 ns) > 52.78 W.
 - Or Class 1M laser with AEL ≥ 339.03 nJ, reference aperture > 19 mm, max pulse power (5 ns) > 67.81 W.
- Capable of supporting uncertified payloads.
- UAVs meeting these conditions require an export licence.
- All UAVs that do not meet existing control criteria (from earlier announcements) but are known or should be known to be used for weapons of mass destruction proliferation, terrorist activities, or military purposes. Exports of such items during the temporary control period are not permitted.¹²⁶

Controls extended to lidar systems used in the production of communication and electronic equipment including:

- drone engines
- key load items
 - infrared imaging equipment
 - synthetic aperture radar
 - lasers for target designation
- radio communication equipment
- civilian anti-drone systems¹²⁷

December 2023

September 2024

Restriction on a wide range of drone parts including:

- Carbon frame for a quadcopter
- Carbon beam for quadcopter
- Quadcopter
- Quadcopter motor
- Quadcopter parts kit
- Quadcopter frame set
- Navigation camera for quadcopter
- Flight controller for quadcopter
- Landing gear for quadcopter
- Propeller for a quadcopter
- Quadcopter frame
- Signal amplifier for quadcopter remote control
- Digital data transmission system for quadcopter
- Digital radio communication detector
- Radio system
- Radio station
- Portable radio
- Video signal transmission system via radio channel
- Electronic warfare systems¹²⁸

Layered into the benefits of localization are economic and technological factors. Economically, domestic production also increases market value and cash inflow, thereby allowing tax revenues and job opportunities to grow. Technologically, this task facilitates development and maturation of related industries.¹⁵

As for **co-production**, there are three main justifications for Ukraine to develop additional production channels abroad.

1. **Ukraine does not have the financial resources to utilize its own domestic production capacity.** In 2024, there was 63% underutilized production capacity—amounting to 1,720,679 drones and EW systems unmade.¹²⁹ In general, By the 2025 NATO Defense Industry Forum, Zelensky noted that although Ukraine's defense production potential exceeds \$35 billion, 40% remains underfunded. In the case of drones, the country has the capacity to produce over 8 million units in 2025, but available funding supports far fewer.¹³⁰
2. **Ukraine benefits from European joint ventures by receiving funds via European subsidiaries and supplementing the Ukrainian economy.** From an economic perspective, this method opens avenues for Ukraine to secure Western production funding. For example, one of Ukraine's top UAV manufacturers, Skyeton, recently announced its partnership with Denmark, which has invested 500 million kroner (\$77 million) to help Ukrainian weapons firms establish joint weapon production facilities there.⁴ Skyeton also has joint facilities in Slovakia and the UK. Especially as Ukrainian defence companies are capped at 25% of production costs, there is a strong incentive for coproduction.¹³¹

- 3. Ukraine needs to establish safer manufacturing lines.** Foreign production lines can operate even if domestic facilities are targeted or disrupted. Tech Force UA and BRDO's survey from October 2025, out of 80 UAV manufacturers, they found that 15% had already established production lines in international markets in order to minimize wartime risks.¹⁰⁷ More generally, Zbroya, an apparatus under the Ministry of Strategic Industries, remarked that 85% of Ukrainian private manufacturers have already relocated their companies abroad or planned to by February 2025.¹³²

Co-production does not come without its disadvantages. Skyeton founder Oleksandr Stepura points out, "producing in Europe gives Skyeton access to global and NATO markets but comes with higher costs and stricter regulations".⁴

Still, interviews with Ukrainian UAV manufacturers indicate that, in order to secure procurement contracts from European governments, Ukrainian companies must be present there.¹² Furthermore, out of 80 Ukrainian companies, 42% confirmed 'Joint Ventures and Partnerships' as a priority while 12% listed 'Overseas Production' as a top consideration in international business developments.¹⁰⁷ It was also ascertained that the median time for these companies to set up a production facility abroad was a mere 3 months.¹⁰⁷

For the above reasons, President of Ukraine, Volodymyr Zelenskyy, announced Ukraine will open export offices and weapons co-production sites in Berlin and in Copenhagen by the end of 2025.¹³³ This strategy was initiated "in order to have more money for our domestic production of deficit items for which we don't have the money," Zelenksky stated.¹³³ This plan is only just beginning to develop, with less than 10 Ukrainian companies opening facilities there and the products limited to types which are being manufactured in more quantity than is purchased by the Ukrainian government—particularly maritime drones and certain artillery systems.^{12,100}

Additionally, there are co-production initiatives where foreign companies are setting up facilities in Ukraine, often under the 'Build with Ukraine' initiative. By December 2025, Ukraine's Ministry of Defense quoted at least 25 foreign defense companies already establishing production facilities in Ukraine.¹³⁴

Overall, there are 20 known countries that are planning or currently co-producing unmanned vehicles with Ukraine which include: Denmark, Germany, the UK, Lithuania, Finland, Netherlands, Norway, Latvia, Sweden, France, the U.S., Greece, Czechia, Poland, Portugal, Romania, Turkey, Canada, Estonia, and Belgium.^{4,135,136,137,138,139,140,141,142} Among these allies, the top five countries submitting requests to Ukrainian manufacturers are Lithuania, the U.S., the UK, Czechia, and Latvia.¹⁶

Table 11: Ukraine's Planned or Current Unmanned Vehicle Co-Production Projects

(Sources: International news, company press releases, the Ministry of Defense of Ukraine, and other Government announcements)

Country	Date Signed/ Announced	Location	Action/ Co-Production Type
Denmark	• 06/24/25	• DK	<ul style="list-style-type: none"> • Sign Letter of Intent: Provides for the establishment of Ukrainian defense enterprises in Denmark¹⁴³ • Discuss: Joint Production of long-range drones and missiles¹⁴⁴ • Agreement: Ukrainian defense companies to open production facilities in Denmark²¹ • Expand joint manufacturing to 3 types of UAVs: drones used on the frontline, interceptor drones, and long-range drones¹⁴⁵ • Denmark's Terma partnered with Ukraine's Odd Systems to create a low-cost, AI-driven drone interception system¹⁴⁶
	• 06/25/25	• DK	
	• 07/04/25	• DK	
	• 07/14/25	• DK	
	• 07/22/25	• Not Stated	
Germany	• 04/18/24	• UKR	<ul style="list-style-type: none"> • German co. opened a new production facility of Quantum Systems GmbH in Ukraine.¹⁴⁷ • Berlin will supply Ukraine with the technical components to build and maintain its own long range weaponry¹⁴⁸ • Discuss: joint air defence-industry projects with Rheinmetall and Diehl Defence¹⁴⁹ • New defence joint venture, "Quantum Frontline Industries", mass-produce multi-use drones, Linza bomber UAV, developed by the Ukrainian company Frontline Robotics¹⁵⁰
	• 05/28/25	• UKR	
	• 12/13/25	• Not Stated	
	• 12/15/25	• DE	

- | | | | |
|----------------|------------|--------------|---|
| United Kingdom | • 06/23/25 | • UK | <ul style="list-style-type: none"> • Data sets from Ukraine's front line are set to be plugged into UK production lines¹⁴⁰ • Ukrainian co. Skyeton has created a joint venture with British co. Prevail Partners for 'Raybird UAV'¹⁵¹ • Agree to produce Ukrainian-developed interceptor drones in the UK 'Project OCTOPUS'¹⁵² • Sign Statement of Intent: establish a working group to coordinate joint projects under the LYRA programme¹⁵³ • Sign licensing agreement for large-scale production of the Octopus interceptor drone²⁰ • Sign development roadmap which included discussions on joint strategic industrial projects in air defence¹⁵⁴ |
| | • 07/02/25 | • UK | |
| | • 09/11/25 | • UK | |
| | • 10/11/25 | • Not Stated | |
| | • 11/27/25 | • UK | |
| | • 01/09/26 | • Not Stated | |

- | | | | |
|-----------|------------|--------------|---|
| Lithuania | • 09/12/24 | • UKR | <ul style="list-style-type: none"> • Discuss: defense cooperation agreements, including investments in drone production in Ukraine and co-production efforts, particularly for long-range drones¹⁵⁵ • MoU: joint production of UAVs, UAV components, ammunition and spare parts, EW equipment, etc¹⁵³ • Letter of Intent: production initiatives, particularly long-range unmanned aerial systems¹⁵⁶ • Discuss: joint production of maritime drones, radars and anti personnel mines¹⁵⁷ |
| | • 11/04/24 | • UKR & LTU | |
| | • 08/25/25 | • UKR & LTU | |
| | • 11/21/25 | • Not Stated | |

Finland	<ul style="list-style-type: none"> • 11/28/24 • 03/13/25 	<ul style="list-style-type: none"> • FIN • UKR & FIN 	<ul style="list-style-type: none"> • Finnish Summa Defence Ltd. announced establishment of a production facility to manufacture drones in cooperation with Ukrainian partners (Kort, Elf Systems, Skyassist, and MPS Development)^{158,159} • MoU: Expanding ammunition production and defense-industrial projects¹³⁹
Netherlands	<ul style="list-style-type: none"> • 10/07/24 • 10/10/25 • 11/05/25 • 12/01/25 	<ul style="list-style-type: none"> • UKR & NL • NL • Not Stated • UKR & NL 	<ul style="list-style-type: none"> • NL allocated €400 million to a joint project with Ukraine to produce drones: surveillance, defence and attack in the air, land, and sea¹⁶⁰ • MoU: Coproduction of long-range drones^{161,162,163} • Discuss: drone co-production for interceptor drones¹⁶⁴ • Sign Agreement: launching joint Ukrainian–Dutch drone production^{165,166}
Norway	<ul style="list-style-type: none"> • 06/23/25 • 11/04/25 • 11/30/25 	<ul style="list-style-type: none"> • UKR • UKR • NO 	<ul style="list-style-type: none"> • Norwegian Kongsberg Defence and Aerospace opens office in Ukraine. Begin projects in interceptor production, air defence enhancement and maritime protection—specifically USVs^{167,168} • MoU: establish a joint defence enterprise¹⁶⁹ • Sign Agreement: jointly produce Ukrainian drones using their expertise, will launch a pilot manufacturing line in Norway¹⁷⁰

Latvia	<ul style="list-style-type: none"> 08/24/25 11/05/25 	<ul style="list-style-type: none"> UKR & LV Not Stated 	<ul style="list-style-type: none"> Discuss: advancing joint production initiatives in both Ukraine and Latvia¹⁷¹ MoU: Industrial cooperation, particularly joint drone production¹³⁵
Sweden	<ul style="list-style-type: none"> 08/24/25 11/06/25 	<ul style="list-style-type: none"> SE Not Stated 	<ul style="list-style-type: none"> Letter of Intent: jointly produce defence material¹⁷² Letter of Intent: Joint development of surface-to-air missile interceptors and radar systems¹³⁶
France	<ul style="list-style-type: none"> 09/28/23 06/07/25 11/12/25 11/17/25 	<ul style="list-style-type: none"> UKR UKR FR FR 	<ul style="list-style-type: none"> French company Turgis & Gaillard signed an agreement with the Ukrainian company "Antonov" on the joint production of UAV based on the MALE-class drone called Aarok¹⁷³ French car manufacturer, in cooperation with a defence company, will launch drone production in UKR¹⁷⁴ Discuss: joint defence industry projects on interceptor solutions and other air defence technologies through European funding mechanisms¹⁷⁵ Declaration of Intent: Enables Ukraine to procure military equipment from France's defense industrial and technological base, including 100 Rafale F4 aircraft by 2035 for Ukraine's combat aviation, SAMP/T air-defense systems, air-defense radars, air-to-air missiles, and aerial bombs. Co-production of interceptor drones will begin this year¹⁷⁶

- | | | | |
|---------------|---|--|--|
| United States | <ul style="list-style-type: none"> • 07/03/25 • 10/15/25 • 11/14/25 • TBD • 12/19/25 | <ul style="list-style-type: none"> • Not Stated • U.S. & UKR • Not Stated • TBD • UKR | <ul style="list-style-type: none"> • Signed a major deal with U.S. company Swift Beat (previously named 'White Stork', then Project Eagle') to co-produce drones— including interceptors, ISR, and attack drones^{19,177,178} • Artemis Program: Auterion and Swan partnered with a Ukrainian hardware manufacturer to produce long range deep strike drone for the U.S. Defense Innovation Unit ^{179} • Began co-producing interceptor drones^{6} • U.S.-UKR 'Drone Deal' which includes interceptors, sea drones, deep-strike drones and training^{180} • Trial of UKR drones: U.S. examines cooperation potential^{181} |
|---------------|---|--|--|

Greece	<ul style="list-style-type: none"> • 11/18/25 	<ul style="list-style-type: none"> • GR 	<p>Agreement: Co-produce drones designed for maritime operations (USV) ^{141}</p>
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- | | | | |
|---------|--|--|--|
| Czechia | <ul style="list-style-type: none"> • 07/03/24 • 11/18/25 | <ul style="list-style-type: none"> • CZ • Not Stated | <ul style="list-style-type: none"> • Czech-Ukrainian company UAC began producing reconnaissance and attack drones^{22} • Ukraine's state-owned arms manufacturer (UkrOboronProm) and Czech co. Air Team have signed an agreement on the joint development and production of interceptor drones^{182} |
|---------|--|--|--|

Poland	<ul style="list-style-type: none"> • 09/03/24 • 08/31/25 	<ul style="list-style-type: none"> • PL • UKR 	<ul style="list-style-type: none"> • ALS Systems becomes the exclusive Polish representative for Ukrspesystems' products, including the popular SHARK drone, MINI SHARK, and PD-2 reconnaissance drones^{183,184} • Polish co. WB Group launched production of FlyEye drones in Ukraine, with a longer-term goal of expanding military drones and counter UAV systems^{185,186}
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Romania	<ul style="list-style-type: none"> • 07/18/25 • 10/01/25 	<ul style="list-style-type: none"> • RO • Not Stated 	<ul style="list-style-type: none"> • Discuss: Joint production where Ukraine will provide technological expertise and Romania will fund the production of components¹⁸⁷ • Romania's Minister of National Defense announced advanced negotiations with UKR to create a joint venture to produce military drones¹⁸⁸
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Belgium	<ul style="list-style-type: none"> • 11/21/25 	<ul style="list-style-type: none"> • Not Stated 	<ul style="list-style-type: none"> • Discuss: joint production of modern air defence systems, development of unmanned systems, and modernisation of weaponry in cooperation with Belgian companies¹⁹⁶
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Turkey	<ul style="list-style-type: none"> • 10/27/19 • 02/04/22 • 10/10/23 • 10/09/25 	<ul style="list-style-type: none"> • TR • UKR • UKR • UKR 	<ul style="list-style-type: none"> • Joint venture between Ukraine's UkrSpets Export (UkrOboronProm) and Turkish drone co. Baykar Defence. Initial projects included the Akinci heavy strike combat drone¹⁸⁹ • Agreed to coproduce an increasingly Turkish drone TB2 a medium-altitude, long-range tactical UAV system. Will build a plant in UKR^{17,190} • Turkey's leading drone maker, Baykar, will invest \$100M on 3 projects in UKR, including production units for the TB2 attack drone¹⁹¹ • Status Update: Confirmed reconstruction of Kyiv factory after Aug '25 missile strikes; opening scheduled for 2026¹⁹²
Estonia	<ul style="list-style-type: none"> • 05/20/25 	<ul style="list-style-type: none"> • EE 	<ul style="list-style-type: none"> • Estonia Meridein Grupp established a drone production facility for FPVs and reconnaissance drones in the Baltic region. Co. signed cooperation agreements with Ukrainian UAV manufacturers¹⁹³
Canada	<ul style="list-style-type: none"> • 08/24/25 	<ul style="list-style-type: none"> • CA 	<ul style="list-style-type: none"> • Signed agreement on joint production of defense products, with the priority area of cooperation being drones^{194,195}

Portugal	<ul style="list-style-type: none"> • 12/20/25 	<ul style="list-style-type: none"> • Not Stated 	<ul style="list-style-type: none"> • Joint statement: establishing a partnership for the production of naval drones¹⁹⁷
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Note: The data cutoff for this table is 01/09/26, there are further coproduction activities after this date

Noticeable headway occurred this past November, where on the sidelines of Ukraine entering an "Enhanced Partnership" with the Joint Expeditionary Force (JEF)—a security coalition of Northern European and Baltic countries—Ukraine addressed establishing joint manufacturing with multiple allies.^{198,199}

Furthermore, the proposed U.S.-UKR 'Drone Deal' would offer the U.S. a 5-year agreement worth \$50B—providing for the production of up to 10 million drones per year. As it stands, the U.S.—through its company Swift Beat—is already co-producing hundreds of thousands of drones of various types with Ukraine with plans to upscale in 2026.¹⁹ While not yet cemented, this 'Drone Deal' includes three cooperation options: direct procurement from Ukraine, forming joint ventures in the U.S. or other allied countries, or establishing Ukrainian subsidiaries in the U.S..

If the U.S. and Ukraine pursue direct procurement, they would not only be circumventing Ukraine's export restrictions, but could also face security and certification challenges, as many Ukrainian drones still incorporate Chinese components. For Taiwan, this sets a complicated precedent. If the U.S. accepts Ukrainian drones containing Chinese-made parts, it could make it significantly harder for Taiwanese to advocate for a non-red supply

chain as the U.S. market would set a global standard that Chinese components are admissible and not a serious security threat. At present, where some countries—such as France, Denmark, the Netherlands, and the Czechia among others—are more flexible to the use of Chinese products, the U.S.'s stance will set a serious precedent and will have a major influence on Taiwan's efforts in the global drone sector.

Opportunely for Taiwan, as of January 2026, the U.S. stance has seemingly shifted toward a "non-red" approach. Under the latest FCC regulations, all new foreign-made drone models and critical components are prohibited from being imported into the United States, with certain exemptions—including Blue UAS-certified systems, those meeting the 'Buy America' 65% standard, and conditional approvals from the Department of Defense (DoD) or the Department of Homeland Security (DHS).²⁰⁰ Nevertheless, U.S. federal government procurement does not fall under FCC regulations.²⁰⁰ While there still remains a possibility that the U.S. government could procure Ukrainian drones which contain Chinese components, there has been developments that veer away from this trajectory. Specifically, two Ukrainian vendors, General CherryCorp and the Ukrainian Defense Drones Tech Corp (UDD), competed in Phase I of the Drone Dominance Program (DDP), a federal acquisition reform, with UDD selected to receive orders. To participate in this program, they passed Blue UAS and NDAA compliance, meaning critical components are 'non-red'.²⁰¹

This potential entry into the U.S. market validates substantiated trends in Ukraine's industrial strategy. First, there is a **shift from Ukraine receiving military aid and investments to striving for co-production** on key products. This finding is corroborated by a Ukrainian research report that asserts 2022 and 2023 as years of rapid growth for private defence startups, attraction of foreign attention, first investments and donor support, while the years of 2024 and 2025 signify transitions to Ukraine's integration into European supply chains, international co-production programs, growth in investment, and the upcoming start of export initiatives.¹⁰⁰

This pivot is likely due in part to donor munition and stockpile depletion. For another, co-production constructs partnership roots that are hard to reverse—thereby giving Ukraine an opportunity to institute longer term political alliances. This co-production strategy endeavors to sustain Ukraine's foothold in the drone industry even in post-war scenarios. For countries on the receiving end of this plan, there are a multitude of benefits as well, including access to Ukraine's innovative battle-tested technology, strategic insights, and rapid innovation cycle. It is also to be noted that the **countries closer to Russia and the conflict are generating the most co-production initiatives**—specifically Nordic and Baltic States.

Moreover, **long range drones and interceptors have the most number of joint projects identifying them as key strategic priorities** in asymmetric warfare. Based on its other ventures, Ukraine is also actively striving to procure more ISR and attack drones, air defense systems, and maritime unmanned systems. The full breakdown of drone model co-production by country—with overlap—is as follows:

- 11 countries focus on long range drones (attack and ISR): TR, U.S., CZ, NL, FR, DK, DE, UK, LT, PL, EE
- 8 countries focus on interceptor : U.S., UK, NL, DK, NO, FR, CZ, SE
- 8 countries quote general production or unspecified: FI, RO, LV, CA, BE, DK, DE, EE
- 4 countries focus on maritime drones: GR, LT, NO, PT
- 4 countries focus on FPVs or frontline drones: DK, DE, PL, EE
- 2 countries focus on anti-drone systems: LT, PL

These drone types represent areas Ukraine is either unable to manufacture alone or unable to meet scale for its own demand. As such, both 'Build with Ukraine' and 'Build in Ukraine' ambitions are expanding in scope, with **18 countries creating facilities in their respective countries** for a Ukrainian joint venture and **at least 10 countries committing to producing drones in Ukraine**. Belgium and Portugal have not yet clarified where the manufacturing location for their joint venture will take place. Notably, there are no countries with only 'Build in Ukraine' models, showcasing that all countries that 'Build in Ukraine' are simultaneously **'Building with Ukraine'** on their own domestic territories.

Graph 6: 'Build in Ukraine' and 'Build With Ukraine' Initiatives

'Build With Ukraine' & 'Build in Ukraine'

- Lithuania
- Finland
- Latvia
- Netherlands
- Turkey
- France
- Germany
- Norway
- Poland
- U.S.



'Build With Ukraine'

- Denmark
- United Kingdom
- Estonia
- Greece
- Czechia
- Romania
- Sweden
- Canada

This has significant importance for Taiwan in that some foreign partners have been hesitant to invest into a country considered 'at risk'. With an outstanding example of foreign companies physically establishing themselves in an active warzone, it is proven that if Taiwan can determine a niche in the UAV industry which is deemed valuable by the international audience, there can be cooperation opportunities despite any preconceived notions of danger. Especially as some allies (U.S., UK, LTU, PL) are aggressively pursuing non-Chinese components, Taiwan is uniquely positioned to become a lead alternative supplier.

Overall, as Ukraine looks to diversify and fortify its defense capacity, there has been a significant expansion of Ukraine's co-production network. By increasing production line redundancy while at the same time compensating for the crucial products which are less capable of being

domestically produced, Ukraine is creating layered resilience and durability for its UAV manufacturing hub. **Co-production also ensures that product standards and certifications are aligned**—meaning that Ukraine will be able to more effectively integrate into EU and Western export pathways in the future. Another beneficial byproduct of these joint ventures is such that Ukraine lessens its dependence on Chinese components—which cause security and bottlenecked supply chain issues.

Ukraine's two-pronged strategy of localization and co-production embodies complementary endeavours to increase UAV procurement and support a secure domestic supply chain, while allowing a decentralized drone-industrial network to begin developing in Europe.

Dual Deployment Strategy

Over the past four years of full scale war, Ukraine has been successful in deploying a wide array of drone platforms including First Person View (FPV) drones, fiber-optic drones, long range drones, deep strike drones, fixed-wing strike platforms, fixed wing reconnaissance UAVs, interceptor drones, multirotor platforms, and heavy copters.^{100,107} Employed for both intelligence, surveillance, and reconnaissance (ISR) and combat purposes, application tactics have evolved on pace with technological advancements.

Interviews with Ukrainian NGOs and manufacturers reveal that the current, general strategy for drone operations is to wield **FPVs as tools for frontline defense** and prioritize **long range or strike drones on the offense to target critical Russian infrastructures.**^{202,203}

FPVs are highly versatile due to their modular designs and interchangeable equipment—making them perfect for addressing unknown, or quickly changing scenarios, on a multitude of front line environments.²⁰⁴

In one case usage, they are employed to provide superior visibility and continuous surveillance on the frontlines. FPVs are capable of picking out small targets from as far as 15-20 kilometers (9-12 miles) away.²⁰⁵ Military units are consequently well informed of aggressors positioning and current situations. Sustained intelligence enables early detection of enemies and their actions which then shortens the time from target identification to confrontation.²⁰⁶

Zelensky has also stated that besides vanguard placement, these short and medium range FPVs are necessary for protecting energy infrastructure—warranting calls for their increased production.²⁰⁷

Precise targeting of critical energy infrastructure is a high-priority tactic from both sides of the battlefield. Originally, Ukraine was aiming strikes at aircraft and air bases, military headquarters, and ammunition depots, but by the conclusion of 2024 had conducted 81 attacks on oil refineries and fuel storage facilities—in which 64 created lasting damage.^{205,208} Realizing the effectiveness of these maneuvers, since August 2025, Ukraine's main attack strategy for UAVs is deep strikes on Russian oil and gas refineries which fund the war economy.²⁰⁹

From January 2024 to March 2025, Ukraine launched 61 drone strikes on Russian oil refineries in which 40% caused fires or lasting damage.²¹⁰ November 2025 saw an all time high of 14 times for these attacks in one month.²¹¹ According to the Head of the Security Service of Ukraine (SSU) Ukraine has executed attacks on 160 Russian oil production and refining facilities in 2025—prompting a 20% shortage in Russia's fuel market and a 37% decrease in refining capacity.²¹² Estimates state that Russia will lose at least \$37 billion from this loss.²¹³

One of the main models used in these long range attacks is called the AN-196 Lyutyi, produced by Antonov Aeronautical Scientific-Technical Complex (ASTC) in partnership with Ukroboronprom, Ukraine's state defense conglomerate.²¹⁴ Decreasing from \$200,000 USD to about \$55,000 USD, this system offers a cost-effective solution against more

expensive Russian defenses.^{214,215} More recently, the Main Intelligence Directorate (HUR) confirmed that Fire Point system's FP-1 drone is the most widely deployed unit for long range missions in 2025.²¹⁶

President Zelensky has announced his aim for Ukraine to conduct long-range attacks everyday—signifying this is a lasting warfare strategy.²¹⁷

Human Skill Before Aircraft Autonomy

Contrary to popular belief, artificial intelligence (AI) is not a central priority to Ukraine on the drone front.^{12,100} AI is not yet widely applied on the battlefield, decreasing its overall importance in warfare strategies.¹² As generally agreed by in DSET interviews with Ukrainian entities, AI drones are just now emerging, do not have a standard form, and have not reached ideal performance.^{12,203,218} According to one Ukrainian UAV association, out of around 100 drone companies, only 2 use a very limited form of AI—for targeting and tracking—on their systems.²¹⁸ Therefore, at present, AI is not a game changer; it is unreliable, and often misguided in terms of the features it can accomplish.¹²

That does not deny AI solutions can be one of the most cost-effective and easiest solutions if used correctly and appropriately.¹² AI drones offer various solutions for the constantly changing electronic profiles on the battlefield. That is to say, AI will never take over the UAV industry completely, but could become a priority depending on if it can maximize effectiveness, according to one Ukrainian entity.²¹⁸

For instance, when in Global Navigation Satellite System (GNSS) denied environments, AI drones can enable autonomous "optical navigation"—matching camera images to predownloaded maps—or become a temporary communication tower through airborne relays with other drones. These basic AI functions like auto-tracking are achievable, but are available as more of a last resort option when the 'human in the loop' gets disconnected. Right now though, it cannot be justified as a national

priority as it is not as functional as desired; the country needs to augment successful systems, fine tune training practices, and focus on mass production first.²¹⁸ More advanced AI roles like self-mission planning in UAVs are still experimental.²⁰³ Yet, while it is a massive industry that can be explored, privileged nations have the advantage—and importantly the financial resources to employ.²¹⁸

AI acts as an accessory to human operated drones rather than a reliable independently acting weapon—a great opportunity to leverage advantages but still only a piece of a larger puzzle.¹⁰⁰ Instead, as one Ukrainian startup cautioned, it is necessary to understand that in some territories the only real safeguard is the troops on the ground.¹⁰⁰

Evidence supports Ukraine's efforts in actively calling for more drone operators. For example, by 2024, the Ministry of Defense (MND) certified over 30 schools for drone operators.¹⁰⁰ Additionally, the MND's 'Contract 18–24' project was approved in order to attract younger operators who are not subject to the draft—which starts at age 25.²¹⁹

Beyond this, in October 2025, the Unmanned Systems Forces (USF), an official military branch of the Ukrainian Armed Forces, explicitly announced 15,000 new vacancies—stating that these roles were even open to civilian professionals.²²⁰ In November 2025, the Army+ app launched a training course on fiber-optic-controlled drones.²²¹

Zelensky himself has recently, and continually, highlighted the need to rapidly and efficiently increase the number of trained drone operators.²²²

Part IV.

Ukraine's Current Production Capacity and Production Goals

At the start of 2024, Ivan Havryliuk, First Deputy Minister of Defense, quoted that Ukraine could produce 20,000 drones a month, or 240,000 a year.²⁰⁶ Yet, by February 2025, Havryliuk stated that Ukraine had the capacity to produce 200,000 drones a month—or 2.4 million a year—which he attributes to increased investment, better-organized supply chains, and restructured manufacturing processes.²⁰⁶

By July 2025, Ukraine's Secretary of the National Security and Defense Council (NSDC) Rustem Umerov stated that **95% of drones used on the frontline were domestically produced.**⁷³ For bomber drones specifically, Ukraine was approximated to have produced 30,000 bomber units in 2025.¹³⁶ Overall estimates reveal that Ukraine is now manufacturing at least **4 million drones** of various types per year.⁴ This represents a 66.7% increase from the February 2025 estimate.

In general, **Ukraine's defense industry capacity is now worth about \$35 billion annually**, although half is unfunded and unused.¹⁶

In 2026, the Ministry of Defense has also expressed the capability of producing up to 20 million drones—including FPVs, ISR drones, and other unmanned platforms essential for the front line—provided they obtain sufficient funds.⁵ For interceptor drones in particular, Ukraine divulged its plan to produce 600–800 units/day by the end of November 2025—which Zelensky confirmed achieving—and the long-term goal of manufacturing 1,000 daily in the future.^{6,222} Other analyses break down this capacity to around **10 million FPV units**, at least **30,000 multicopter bombers**, over **33,000 deep strike drones**, as well as an undocumented amount of middle strike drones and interceptor drones per year.²²³

Part V.

Ukraine's Procurement Plan

Types of UAV Ukraine is Actively Procuring




There are roughly three pathways for procurement in Ukraine. First, Ukraine can receive donations—for instance through the Drone Coalition which can use its own funds to procure UAVs.²²⁴ The coalition would then handle the necessary NATO Codifications (NSN) before transferring the systems to Ukraine. The second track embraces the aforementioned joint ventures—with facilities abroad already aligning with Ukrainian certifications, thereby streamlining procurement by the Defense Procurement Agency (DPA) for specialized, high-end systems. Lastly, and most obviously, Ukraine can purchase UAVs from its own private defense manufacturers which offer a greater variety of systems, a quicker speed of delivery, and cheaper prices.


Ukraine has proven its domestic capability and capacity to manufacture UAVs. However, funding is still a major issue resulting in underutilized production lines and ongoing acquisition to meet domestic quantity requirements. Thus, even though in March 2025, the Ministry of Defence of Ukraine allocated over UAH 110 billion (USD \$2.5B) for the procurement of drones, by May 2025, Germany's Ministry of Defense granted Ukraine additional funds—after a financial aid request—and gave support worth 400 million euros (USD \$463.6M) for Ukraine's domestic manufacturing of **long range** Bars and An-196 Liutyi drones and Flamingo-type UAVs.^{225,226}

In line with Ukraine's offensive, deep strike strategies, long range drones are a priority for 2025—including the aforementioned Lyutyi from Antonov, FP-1 by Fire Point, Palianytsia "drone missile", Ruta "drone missile", Peklo, and Bars.²²⁷ Together with other types of UAVs, like **interceptor drones**, Ukraine still has a production deficit, according to Hryhorii Shverk, founder of drone-manufacturing company General Cherry.¹⁶ This past November, the Minister of Defence of Ukraine, Denys Shmyhal, briefed the G7 countries about Ukraine's winter needs: additional **air defense systems and associated munitions; FPV drones for the front line; and interceptors to counter Shahed drones.**²²⁸ This information is corroborated by DSET interviews with leading Ukrainian defense tech clusters: Ukraine is still actively procuring long range drones, general strike drones, and interceptor drones.²¹⁸

Table 12: Examples of UAV Types Ukraine is Actively Procuring

(Sources: International News and DSET Interviews)

Name	Type	Image	Manufacturer	Specs	Classification
Bars	Medium-range Strike System	 229	Anonymous private company	-Warhead: about 50-100 kg -Small turbojet engine -Launched from ground-based installations and aircraft -Range: 700-800 km ^{230}	Group 3
An-196 Liutyi	Deep Strike	 231	Ukroboronprom (state defense conglomerate) & Antonov	Warhead: 75kg -Range: ≥ 1,000km -Dual-boom low-wing fuselage -Pusher-propeller engine -Fiberglass reinforced by metal mesh -Conventional aircraft take-off methods-Fixed landing gear ^{231}	Group 3
FP-1	Flamingo-Type UAV Deep Strike	 232	Fire Point	-Range: 1,600 km -Warhead: 120 kg	Group 3

<p>Palianytsia</p> <p>"Drone Missile" Deep Strike</p>	 <p>229</p>	<p>Ukroboronprom 233</p>	<p>-Turbojet engine -Launched from a ground-based installation -Warhead: 100 kg -Speed: 400-500 km/h 230</p>	<p>Group 3</p>
<p>Ruta</p> <p>"Drone Missile" Strike / ISR 230</p>	 <p>234</p>	<p>Destinus, a European aerospace company with facilities in Spain and Switzerland 235</p>	<p>-Range: 300 km -Speed: about 500-800 km/h 230</p>	<p>Group 3</p>
<p>Peklo</p> <p>Deep Strike</p>	 <p>236</p>	<p>Ukroboronprom 236</p>	<p>-Range: 700 km -Speed: 700 km/h -Warhead: about 50 kg 230</p>	<p>Hybrid: Group 4, but operates like Group 3</p>
<p>AQ-400 Scythe</p> <p>Long-range Strike Drone</p>	 <p>237</p>	<p>Terminal Autonomy</p>	<p>Range: 750-900 km Speed: 140-200 km/h Warhead: 42kg 237</p>	<p>Group 3</p>
<p>Sting</p> <p>Interceptor Drone</p>	 <p>238</p>	<p>Wild Hornets</p>	<p>-Speed: Up to 315 km/h -AI intelligence target guidance system 238</p>	<p>Group 1</p>

Bullet

Interceptor Drone



[239](#)

General Cherry

-Speed: Up to 309 km/h^{[239](#)}

Group 1

AIR Speed

Interceptor Drone



[240](#)

General Cherry

-8-inch frame
-Speed: Up to 236 km/h^{[240](#)}

Group 1

Drone Hunter

Interceptor Drone



[241](#)

VARTA

-Drone-mounted kinetic interceptor
-Dual 12-gauge barrel system
-Range: 5-20 meters
-Integrated with drones ranging from 7-15 inches^{[241](#)}

Group 1

Chief-1

Interceptor Drone



[129](#)

Anonymous

-Automatic target recognition
-Range-finding systems^{[129](#)}

Group 1

Ukraine's Domestic Procurement

Ukraine's unmanned ecosystem has evolved from a volunteer-driven initiative into a robust industrial sector. As of 2025, Ukraine's unmanned market comprises over 900 UAVs manufacturers, supported by a decentralized supply chain including 280+ EW companies, 20+ components companies, 200+ UGV companies, 200+ AI developers, and 40+ ammunition companies.^{15,100}

Utilizing these production lines, Defense Minister Denys Shmyhal stated that Ukraine needs to manufacture **400,000 drones every month** to uphold its asymmetric warfare tactics against Russia.²⁴²

As this assessment delineates, there is no single "best" Ukrainian drone company or platform since frontline realities constitute different environments and needs, which require highly specialized functions. Constant adaptations and modifications by a multitude of companies is required to meet differing demands. Consequently, Ukraine's procurement policy favors a "capability mix" over rigid standardization. Within this blend, there is an amalgamation of successful Ukrainian UAV companies which, by type, include but are not restricted to:

Table 13: Examples of Successful Ukrainian UAV Companies by Type

(Sources: DSET Interviews, International News, Company Resources, and Video Materials, compiled by DSET)

Type	Name	Manufacturer	Details
FPVs & Hexacopters	Vampire aka 'Baba Yaga'	One of the biggest military technology manufacturers, Skyfall	Strike hexacopter-style UAV ¹⁰⁰
	SHRIKE FPV	Skyfall	FPV ²⁴³
	Stormer	AERO3D	FPV ²⁴⁴
	Tornado	AERO3D	FPV ²⁴⁴
Long-Range Strike & Strategic Systems	Linza	Frontline Robotics	EW-Resistant Multifunctional UAV ²⁴⁵
	FP-1 "Flamingo"	Fire Point, a significant entity in this sector	Long-range strike systems ²³²
	FP-5 "Flamingo"	Fire Point	Missile-drone hybrid ²⁴⁶
Tactical Reconnaissance & Targeting	Neptune	Luch Design Bureau	Longe range cruise attack missile ²⁴⁷
	Gor UAV	Airlogix, ranked 84 for the top 100 drone defense companies internationally in 2025 by the Defense Post ²⁴⁸	Provides immediate battlefield situational awareness and 4 hour flight times at \$200,000 USD a unit ¹⁰⁰
	PD-2	UKRSpecsystems	Utilized for special missions over 110 miles ¹⁰⁰

SHARK

UKRSpecsystems

Utilized for mid-range operations, also provides reliable ISR¹⁰⁰

Various

Screentech LLC

Multicopter drones for logistics, ISR, strike, and even agriculture purposes¹⁰⁰

Stormer UAV

Aero3D

Designed for flexible reconnaissance and strike missions²⁴⁹

Tornado UAV

Aero3D

Designed for flexible reconnaissance and strike missions²⁴⁹

Unmanned Surface Vessels (USVs)

Sea Baby

Security Service of Ukraine (SBU)

USV²⁵⁰

Magura V5

Ukrainian state enterprise "Special TechnoExport"²⁵¹

USV that can conduct ISR, search-and-rescue, mine warfare, and fleet security operations²⁵²

Swarm Platform

Swarm

Developing AI specifically for drone swarm coordination²⁵³

AI & Electronic Warfare

Platform

Mantis Analytics

AI for information space monitoring and cognitive security²⁵⁴

Kraken C-UAS

Kvertus

Domestic EW systems²⁵⁵

PES Sirko

Babai

Drone detector²⁵⁶

Part VI.

Ukraine's Top Export and Import Destinations

For this section, please note that for 2022, data is compiled from Ukrstat, the official state statistics service of Ukraine, as the only available data source.²⁵⁷ For 2023, 2024, and 2025, data from Eurostat is utilized, as Eurostat has better resolution and input data.²⁵⁸ It must also be mentioned that this data only observes full drone units of HS code 8806. It does not report on component exports or imports—which account for a greater volume of sales from Taiwan to Central European countries and makes up the main, current form of cooperation between Taiwan and Ukraine.¹⁴ Moreover, this data generally, and greatly, underestimates import and export figures as many records have an input of '0', meaning that a significant amount of data remains unreported.

That being said, In terms of Taiwanese exports to Ukraine, interviews with both Taiwanese and Ukrainian equivalents find that most, if not all, **of full drone exports to Czechia—amounting to 70,372 units—and Poland—31,711 units—in 2025, the top countries TW exports drones to, are being transferred to Ukraine.**^{3,14} To Czechia, these exported units are comprised of 63,041 drones with maximum take-off weight more than 250 g, but not more than 7 kg (HS code 8806.22) and 7,331 drones with maximum take-off weight more than 7 kg, but not more than 25 kg (HS code 8806.23). To Poland, these units are made up of 30,111 units of drones with maximum take-off weight more than 250 g, but not more than 7 kg (HS code 8806.22); 1,200 drones with maximum take-off weight more than 7 kg, but not more than 25 kg (HS code 8806.23); and 400 drones with maximum take-off weight more than 250 g, but not more than 7 kg (HS code 8806.92). This data aligns with Kunway Technology's statement that they export two models of kamikaze quadcopters to Ukraine via Poland.²⁵⁸ In any case, it is expected that demand from these countries will dwindle when the war in Ukraine ends, making it pressing for Taiwan to solidify supply-chain and defense partnerships now.

Directly, **Taiwan exported \$20,246,206 USD to Ukraine from 2022-2025.** In 2022, approximately \$164,900 USD worth of the lightest Group 1 drone units (HS code 8806.21)—weighing no more than 250 grams—was exported from Taiwan to Ukraine. Interestingly, in this year, Ukraine only imported and exported this drone type (HS code 8806.21). In 2024, Taiwan exported \$7,200 USD Group 1 drones weighing more than 250 grams, but no more than 7KG (HS code 8806.22) to Ukraine. More recently, **the bulk of exports was in 2025—with \$19,618,600 USD of the same Group 1 drones** weighing more than 250 grams, but no more than 7KG (HS code 8806.22) shipped, along with \$480,800 USD of Group 1 or Group 2 drones weighing more than 7KG, but no more than 25kg (HS code 8806.23). **Therefore, the majority of direct Taiwanese exports to Ukraine consist of Group 1 drones weighing more than 250 grams, but no more than 7KG (HS code 8806.22) in 2025.** Interestingly, for 2025, U.S. exports to Ukraine valued approximately \$9,628,700, meaning that Taiwan actually exported a higher value—at \$20,092,200 for its 2025 total. Even across 2022-2025, the U.S. and Taiwan's UAV export value to Ukraine are similar, with the U.S. totaling \$25,151,150 USD and Taiwan totaling \$20,264,211 USD.

Generally, the **top countries to export to Ukraine from 2022-2025 are: China, Poland, Turkey, Germany, and Czechia.** China, as the top exporter to Ukraine, mostly sold Group 1 drones weighing more than 250 grams, but no more than 7KG (HS code 8806.22). From Poland, Ukraine imported mostly Group 1 or Group 2 drones weighing more than 7KG, but no more than 25kg (HS code 8806.23). From Turkey, Ukraine imported 'other' drones (HS code 8806.29). From Germany and Czechia, the majority of Ukraine's imports were drones with maximum take-off weight more than 25 kg, but not more than 150 kg (HS code 8806.24). (For the exact USD values of exports by country, please see Table 14. To see the major exporting countries over time, please see Graph 6).

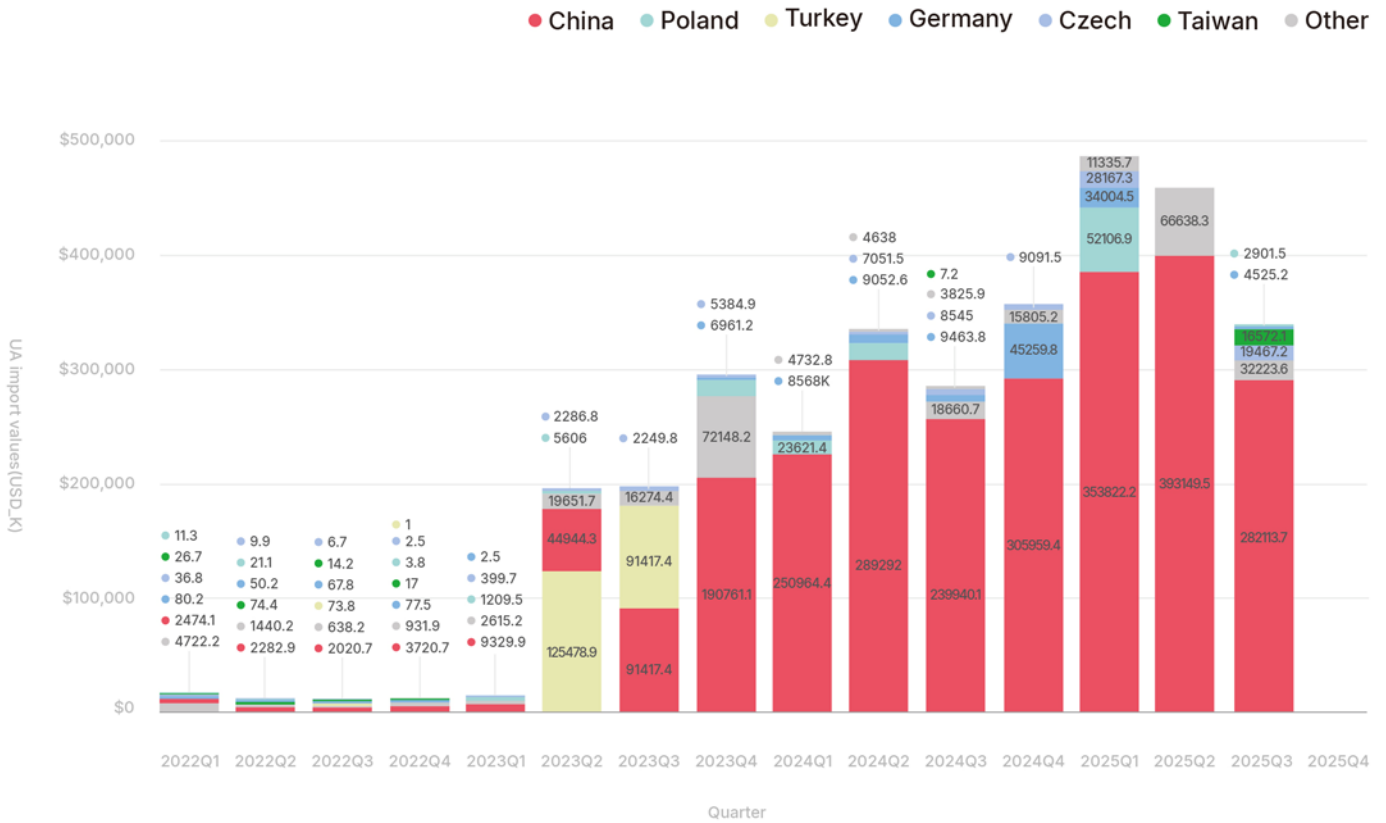
**Table 14:
Top Countries
Ukraine Imports
From By USD Value**

(Source: Ukrstat, the official state statistics service of Ukraine, and Eurostat, compiled by DSET)

Country	Value in USD
CN	2,462,192,050
PL	211,423,012
TR	197,281,563
DE	89,129,201
CZ	87,787,140
LV	79,890,711
NL	60,251,964
VN	43,240,722
US	25,151,150
TW	20,264,211

Graph 7: Ukraine's Imports 2022-2025 (Value_USD)

(Source: Ukrstat, the official state statistics service of Ukraine, and Eurostat, compiled by DSET)



Export wise, over 2022-2025, the top countries Ukraine exported to include: Czechia, Mauritania, the United States, Poland, and Somalia. Notedly, 2022 is the only year with accounted exports to Somalia and Russia, with no more exports to these two countries afterwards. To Somalia, Ukraine exported \$415,900 USD worth of the lightest Group 1 drone units (HS code 8806.21) which weigh no more than 250 grams.

The majority of exports to Mauritania consist of drones with maximum take-off weight more than 25 kg, but not more than 150 kg (HS code 8806.24) valuing \$1,515,532 USD in quarter 2 of 2023.

To Czechia, Ukraine exported approximately \$218,300 USD of the lightest Group 1 drone units (HS code 8806.21) which weigh no more than 250 grams in 2022, and the majority of exports, worth \$1,948,000 USD, of 'other' drone units (HS code 8806.99) in quarter 1 of 2024.

For Poland, \$11,200 USD of the lightest Group 1 drone units (HS code 8806.21) which weigh no more than 250 grams was exported from Ukraine to them in 2022. In 2023, Ukraine exported \$48,300 USD worth of drones with maximum take-off weight more than 25 kg, but not more than 150 kg (HS code 8806.94) to Poland in quarter three. Quarter two of 2025 accounted for the majority of Ukraine's exports to Poland in terms of value—totaling approximately \$362,200 USD of drones with a maximum take-off weight more than 25 kg, but not more than 150 kg (HS code 8806.24).

Ukraine's exports to the U.S. comprise of \$3,400 USD worth of the light Group 1 drone units (HS code 8806.21) and \$673,000 USD worth of drones with maximum take-off weight more than 25 kg, but not more than 150 kg (HS code 8806.94) spread between quarter two of 2023 and quarter two of 2024.

Lastly, **over these 4 years, Ukraine exports to Taiwan amount to only \$500 USD from quarter 1 of 2022. These were the lightest Group 1 drone units** (HS code 8806.21) which weigh no more than 250 grams. (For the exact USD values of Ukraine's exports to other countries, please see Table 15. To see the countries Ukraine exports to over time, please see Graph 7).

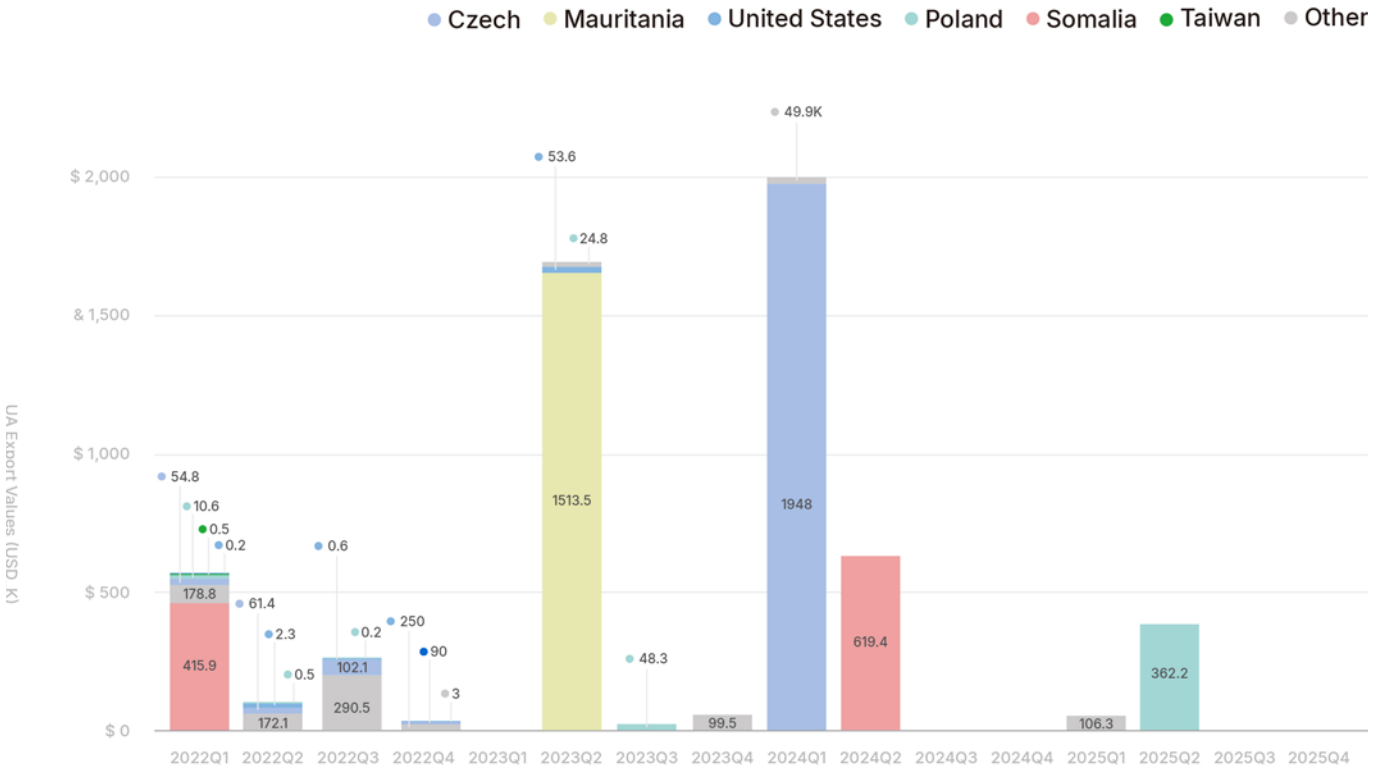
**Table 15:
Top Countries
Ukraine Exports
To By USD Value**

(Source: Ukrstat, the official state statistics service of Ukraine, and Eurostat, compiled by DSET)

Country	Value in USD
CZ	2,167,760
MR	1,513,532
US	676,400
PL	421,728
SO	415,900
DE	214,361
EE	171,400
LV	106,296
GB	99,467
CN	55,882
GE	52,504
UZ	41,400
TW	500

Graph 8: Ukraine's Exports 2022-2025 (Value_USD)

(Source: Ukrstat, the official state statistics service of Ukraine, and Eurostat, compiled by DSET)



Part VII.

Ukraine's International Cooperation Structure

The Ukrainian UAV industry presents a wide array of cooperation architectures. Expanding from simple donations of weapons to intricate procurement apparatus as the Russo-Ukrainian War persisted, Ukraine's model is one of redundancy and resilience. Besides direct funding, there are technology sharing agreements, joint ventures, and research and development plans, to name a few. A general classification of these cooperation types is as follows:

Table 16: Ukraine's Models of Drone Cooperation and Partners

(Sources: International News, Company Press Releases, Government Announcements and Statistics Databases, compiled by DSET)

Type of Cooperation	Partner Countries
Co-Production	Belgium, Canada, Czechia, Denmark, Estonia, Finland, France, Germany, Greece, Latvia, Lithuania, Netherlands, Norway, Poland, Romania, Sweden, Turkey, United Kingdom, United States
Tech Sharing/ R&D	Belgium, Canada, Czechia, Denmark, Estonia, Finland, France, Germany, Greece, Latvia, Lithuania, Netherlands, Norway, Poland, Romania, Sweden, Taiwan , Turkey, United Kingdom, United States
*Company to Company level	
Ukraine Imports (2022-2025) From	Bulgaria, Canada, Croatia, China, Colombia, Cyprus, Czechia, Germany, Denmark, Estonia, Spain, United Kingdom, Hong Kong, Italy, Jordan, Lithuania, Latvia, Malaysia, Netherlands, Poland, Slovenia, South Korea, Sweden, Taiwan , Thailand, Türkiye, United States, Vietnam ^{257,258}
Ukraine Exports (2022-2025) To	China, Czechia, Estonia, Germany, United Kingdom, Georgia, Latvia, Mauritania, Poland, Somalia, United States, Uzbekistan ^{257,258}

Component Sourcing

Australia, Austria, Belgium, China, Denmark, EU, Estonia, France, Japan, Lithuania, Norway, South Korea, Spain, Switzerland, **Taiwan**, United Kingdom, United States^{[24,259](#)}

Aligned Certification

*Co-production allows countries' specific companies to align, not the whole country

Drone Coalition, Co-Production Partners*, and NATO members: Australia, Belgium, Canada, Czechia, Denmark, Estonia, Finland, France, Germany, Greece, Italy, Latvia, Lithuania, Luxembourg, Netherlands, New Zealand, Norway, Poland, Romania, Sweden, Turkey, United Kingdom, United States

Joint Training

Denmark, Estonia, Finland, Iceland, Latvia, Lithuania, Netherlands, Norway, Poland, Sweden, United Kingdom^{[260,261](#)}

Donations/Funding

Australia, Belgium, Canada, Czechia, Denmark, Estonia, France, Germany, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Netherlands, New Zealand, Norway, Poland, Sweden, Turkey, United Kingdom, United States^{[262,263,264,265,266,267,268](#)}

Additionally, some key Collaboration Initiatives include:

- **Prioritized Ukraine Requirements List (PURL):** This measure allows Ukraine to quickly purchase U.S. weapons—including drones and air defense interceptors—and bypass normal, lengthy bureaucratic procedures. Spearheaded by NATO and the U.S., allies have raised 4 billion USD since August 2025. [269](#)
- **Security Action for Europe (SAFE):** This effort provides 150 billion EUR (USD \$173.8B) for investments in defence capabilities, encompassing drone technology. [270](#)
- **'Danish Model':** Primarily makes use of interest income from Russia's frozen assets, along with individual country donations, to fund Ukraine's Armed Forces. This plan is expected to provide at least EUR 2.6 billion (USD \$3B) to Ukrainian defense tech manufacturers to deliver weapons and military equipment from 2024-2027. [271](#) Sweden, in particular, supplied 400 deep-strike assets through this model and PURL. [136](#)
- **Drone Coalition:** Led by Latvia and the United Kingdom, the 18 member alliance allocates a minimum of 10 million EUR10 million EUR (USD \$11.6B) a year to supply Ukraine with UAVs and support Western drone manufacturing. [224](#)
- **Operation Legio:** Institutes a training initiative for Ukraine and 9 Nordic and Baltic nations: Denmark, Estonia, Finland, Iceland, Latvia, Lithuania, Norway, Poland, and Sweden. [260](#)
- **Joint Expeditionary Force (JEF) Enhanced Partnership:** JEF, made up of 10 Northern European nations (the United Kingdom, Denmark, Estonia, Finland, Iceland, Latvia, Lithuania, the Netherlands, Norway, and Sweden) will provide additional training to Ukrainian soldiers, collaborate on drones, and allow JEF countries to learn from Ukrainian battle experiences. [261](#)

- **Iron Global:** Iron Cluster, a Ukrainian defense tech cluster, scales manufacturing by creating production chains, establishes a platform for networking, promotes member products, and tests technology with frontline feedback.²⁷² It recently launched 'Iron Global' which introduces 10+ international company members to source from: Cailabs (France), HAMA K.K (Japan), Stronghold AI (France), CAFA Tech (Estonia), BlinkTroll Robotics (Denmark), BALTIC VIPER (Lithuania), Storm (UK/Ukraine), Integrasys (Spain), MilUAS (Norway), and Tyndall FX (France).²⁵⁹
- **Security Assistance Group – Ukraine (SAG-U):** U.S. led coordination of security assistance, provision of military equipment, and training from 25 nations to Ukraine.²⁷³

Besides these specific strategies, 28 countries and the EU itself have signed general security agreements with Ukraine giving way to constant foreign military sales and aid packages sent by allied international actors.¹⁶⁵

Moreover, for Taiwan's reference, Ukraine is increasingly open to technology and knowledge sharing with its allies, as Denys Shmyhal Ukrainian Minister of Defense proclaimed.²⁷⁴ Evidenced through the groundbreaking joint 'Project Octopus' with the United Kingdom, Ukraine is open to synergistic cooperation. This initiative, in particular, leverages Ukraine's hard earned, innovative drone technology through a tech sharing agreement to manufacture thousands of interceptor drones utilizing the UK's production lines.²⁷⁵ All of these drones will be then transferred to Ukraine. The UK, in return, stated the enterprise would create new British jobs and support their national security. Further, the aforementioned U.S.-UKR 'Drone Deal' signals the exchange of Ukrainian drone technology for U.S. weapons systems and manufacturing aid. Even more recently, the Polish Army announced they were in negotiations with Ukraine over the transfer of MIG-29 fighter jets in exchange for selected drone and missile technologies.²⁷⁶

This level of industrial and production cooperation, along with deeper integration into defense ecosystems is what Taiwan hopes to achieve with Ukraine. However, as the situation currently stands, the Taiwan Excellence Drone International Business Opportunities Alliance (TEDIBOA)'s Memorandum of Understanding with Ukraine's Iron Cluster only states that Ukraine will contribute to drone research and development, but the extent of what technology is shared is unknown.¹¹ Taiwan aims to bridge this gap by deepening technical cooperation, thereby securing access to Ukraine's critical 'lessons learned'.

Part VIII.

Taiwan-Ukraine Cooperation

Level of Current TW-UKR Cooperation

The main form of present-day drone cooperation between Taiwan and Ukraine consists of Taiwanese component sales to Ukraine—specifically for airframes, flight controllers, battery cells, and motors.¹² Discernably, the flight controllers that Taiwan exports to Ukraine are PCB 'motherboards' for drones, while flight control chips are the specific silicon processors on the printed circuit board that executes the code. Within that context, Taiwan has greater expertise in flight controllers at present and it is aiming to address its weakness in flight control chips with various key chip subsidy programs. DSET interviewees also cite sales of jet engines.^{13,277,278,279} This budding partnership is built upon business to business (B2B) rather than governmental relations.

One Ukrainian entity reports **that out of 61 UAV companies, 7 Ukrainian companies work with Taiwanese companies.**¹² Taiwan counterparts specify that these companies overlap in cooperation with the **same 4 Taiwanese companies for flight controllers, motors, battery cells, and other microelectronics.**¹³ One battery company divulged their **sales of up to 5-7million battery cells per month** end in Ukraine— in which 500,000 cells equal to 20,000 battery modules per month and around 18-30 cells are needed to compose 1 module and 1 module is needed for every drone.²⁸⁰ These are either sold to Poland and transferred or sold through brokers.²⁸⁰ This company, in particular, has also been invited to Ukraine to assess drone final products and acquire battle-field data to improve the batteries' functionality.²⁸⁰

Other initial steps include the Taiwan Excellence Drone International Business Opportunities Alliance's **(TEDIBOA) new MoU with Ukraine's IRON cluster** signed at the 2025 International Defence Industry Exhibition (MSPO) in Poland on September 2, 2025.¹⁰ This partnership establishes a platform for the two countries' industrial cooperation—including joint marketing, UAV business development, and participation in international ventures.¹⁰ The two organizations are actively promoting B2B connections between their company members.

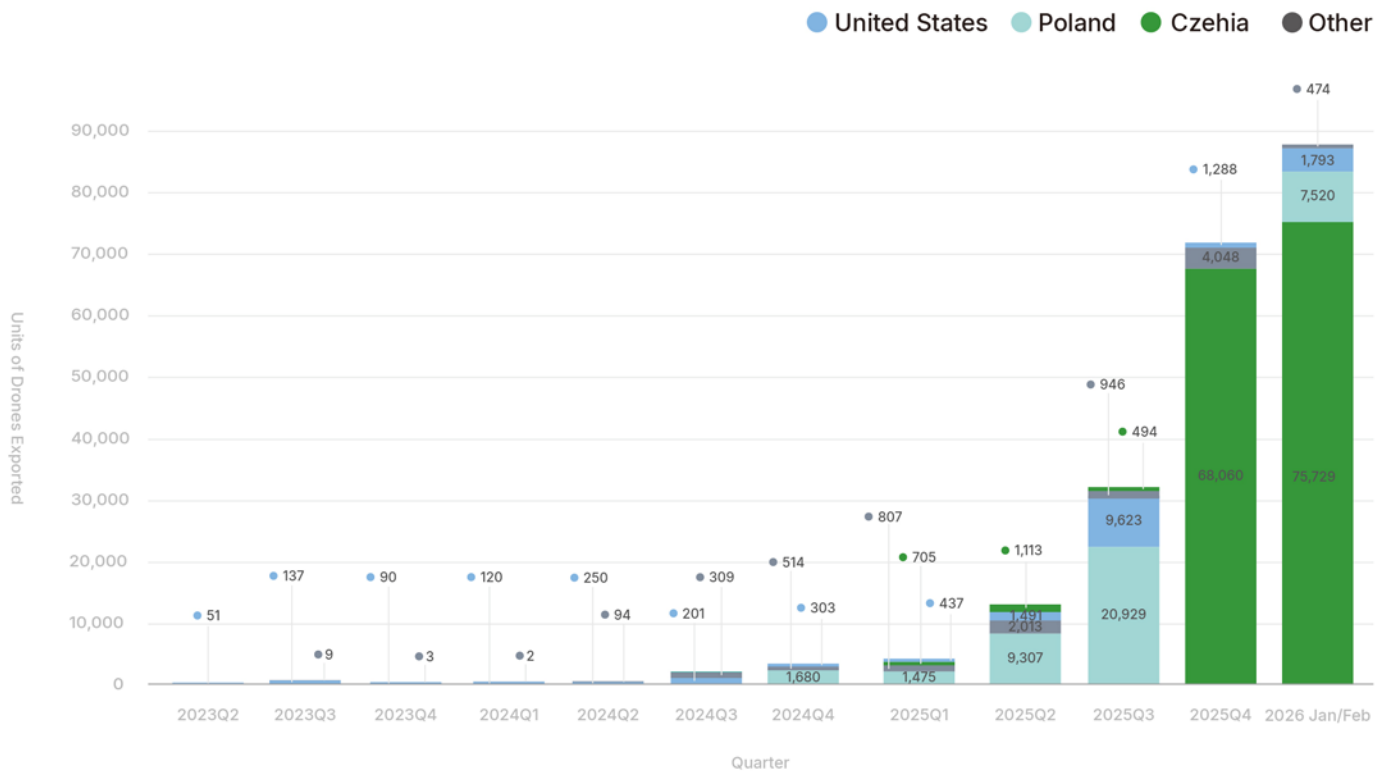
Additionally, Ukraine is willing to contribute research and development initiatives.¹¹ Taiwan will provide advanced microelectronics and propulsion components and Ukraine will contribute combat-tested R&D and rapid feedback.

Interviews disclosed that many more Taiwanese companies **work directly with Poland and Czechia to sell components which are then transferred to Ukraine.**¹³ While direct collaboration remains politically sensitive, the integration of Taiwanese components into the Ukrainian supply chain has accelerated through "drone diplomacy" initiatives, private-sector agreements, and paradiplomacy through Ukraine's neighboring countries.

In terms of full drone unit exports, according to statistics from Taiwan's Ministry of Finance, **for 2025, Taiwan exported 122,706 units, a 35.5x increase from 2024 exports.**³ These exports were **valued at NT\$2.95 billion**, a 20-fold increase from NT\$140 million in 2024.² Analysis reveals that these exports consist of smaller, Group 1 drones. Furthermore, Czechia, Poland, and the United States were the top three destinations for Taiwanese UAV exports, in that order. Throughout 2025, Poland bought 31,711 units, Czechia 70,372 units, and the United States bought 12,839. Interviews with both Taiwanese and Ukrainian equivalents state that **most, if not all of drone exports to Poland and Czechia—the top countries TW exports to—are being transferred to Ukraine.**¹⁴

Graph 9: Taiwan's Exports By Country 2023-2025

(Source: Taiwan's Ministry of Finance, compiled by DSET)



TW-UKR Cooperation Potential

The potential for further Ukraine-Taiwan collaboration is astounding. Various bonds between the two drone ecosystems have been created. Now it's time for the two to address **scale, structure, and strategic intent**. It is without a doubt that Taiwan can contribute in lessening Ukrainian vulnerabilities, while at the same time strengthening its own nascent drone infrastructure. A more cohesive partnership is mutually beneficial.

Taiwan possesses valuable, transferable capabilities in **high-tech electronics and manufacturing**. At a time when Ukraine is at an inflection point—addressing the risks of supply chain dependencies by phasing out the usage of Chinese drone components—Taiwan is perfectly aligned to become a dependable, alternative supplier.

As a global leader in the semiconductor industry, Taiwan could easily supply microelectronics, among other parts, as Ukraine currently has no domestic production of Surface-Mount Devices (SMDs) and printed circuit board (PCB) production remains limited both in capacity and technological maturity.²⁴ Taiwanese manufacturing and production lines additionally have prospects to help Ukraine meet problems of scale.

For Taiwan, alongside its push towards asymmetric defence strategies, this collaboration offers a unique opportunity to mature its defense sector, leveraging Ukraine's experience, combat-tested innovations, and warfare tactics.

Stronger component sourcing agreements are only the beginning. As both partners move toward resilient industrial UAV bases, they hold the power to cement new paths of cooperation—rooted in unmanned vehicles, innovation, and adaptability.

However, a hard truth remains: Ukraine does not necessarily need Taiwan's immediate assistance, whereas Taiwan urgently needs Ukraine's experience.²⁸¹ Learning Ukraine's battle-tested UAV technological innovations and tactics has become the starting line for national defense.²⁸² On top of that, in order for Taiwan to work its way into Ukraine's drone supply chain, it must find a way to be indispensable to them. To do that, this report recommends instituting **long term co-production initiatives on long range and interceptor drones** that would be mutually advantageous, as they represent types of drones which both countries currently lack the ability to manufacture at scale. Taiwan has unmatched skill in the semiconductor industry—facilitating easy entry into R&D on distinct drone chips. Additionally, Taiwan's turbo-jet engine manufacturers have been identified as 'hidden champions' in the drone industry.^{13,277,278,279} Generally, jet-engines have been utilized in Ukraine's 'Palianytsia Drone Missile' and the U.S.' Roadrunner-M from Anduril, among others.^{283,284}

Together, combining Taiwanese manufacturing prowess and advanced components with Ukrainian technological expertise, production efficiency would inevitably improve. As a byproduct, a non-formal, long-term partnership between Taiwan and Ukraine would be strengthened.

Challenges to TW-UKR Cooperation

Apart from strategic alignment, there are still significant hurdles to overcome in terms of operationalizing cooperation.

Challenge 1: Trust and 'Switching Costs'

Altering procurement pathways during active warfare is not merely a commercial choice, as real lives are risked as a potential cost of failure. Switching from a reliable product to a new one, no matter if it is cheaper or higher quality creates possibilities for failure—making this a long term issue.²⁸⁵ DSET interviews with Ukrainian defense tech clusters corroborates this claim.¹² There are also strong incentives to 'buy national' or buy 'EU' to strengthen resilience.¹⁰⁷

Challenge 2: Short Term Contracts

According to Better Regulation Delivery Office (BRDO), an independent Ukrainian think tank, out of 80 UAV related manufacturers, 79% view short term contracts as a growth blocker.¹⁰⁷ Unpredictable demands are paired with an unreliable budget, meaning that scaling and developments are decelerated. In a rapidly advancing technological environment this can easily allow companies to fall behind. If Taiwan doesn't offer long term contracts, cooperation may stall.

Challenge 3: Export Bans and Bureaucratic Red Tape

Although the Ukrainian government has announced the establishment of export offices in Berlin and in Copenhagen, they only pertain to a limited number and kind of UAVs that Ukraine has in surplus. BRDO disclosed that 97% (78 out of 80) of polled UAV companies are waiting for further lifting of these bans, which would allow for more entry into other countries' markets, joint production, and expansion of B2B and G2G connections.¹⁰⁷ On top of this, Ukrainian companies expect challenges with other bureaucratic procedures during the export process such as testing, codification, and certification.¹⁰⁷

Challenge 4: Geographical Limitations

Taiwan and Ukraine are locationally distant from each other, causing setbacks in delivery times and other logistical issues. As a result, BRDO finds that most Ukrainian companies identify NATO countries in both Western and Eastern Europe as their primary export destinations—especially as the countries closest to Russia are most aggressively incorporating new drone measures—with only 17% viewing East Asia as a market.¹⁰⁷

Challenge 5: Absence of a Taiwanese Logistics Hub

Interviews with Ukrainian organizations communicate that a Taiwanese operations and logistics base that connects Ukrainian companies with suitable Taiwanese counterparts should be enhanced.¹⁰⁰ TEDIBOA exists as a major stepping stone in resolving this issue, however it is still lacking necessary institutionalization and backing to fulfill current requirements.

Challenge 6: Political Sensitivities

Overt defense cooperation with Taiwan could be seen as provoking China. Furthermore, at the 2026 World Economic Forum Ukraine's President Zelensky critiqued Taiwan for allowing its components to end up in Russian weapons.²⁸⁶ Though Taiwan's President Lai replied to the remark by welcoming further dialogue to restrict illegal country transshipment and concealed end use, there has yet to be confirmed progress.²⁸⁶ Lastly, the absence of formal government-to-government ties with Kyiv limits the scope of technical cooperation—all countries that are currently co-producing with Ukraine have diplomatic ties.²³ Even so, one major Ukrainian defense tech cluster remains optimistic: Ukraine is flexible when the end result is bringing more weapons into Ukraine.²¹⁸ Therefore, an MoU or framework alignment between Taiwan and Ukraine's Ministry of Defense is feasible.²¹⁸

Part IX.

Taiwan-Ukraine Collaboration Policy Recommendations

Based on Ukraine's own UAV policy objectives—including a shift away from red components—and status of current cooperation models, there are 5 directions the Taiwanese government can move towards to progress Taiwan-Ukraine collaboration in the UAV industry and encourage long-term cooperation. Despite the logistical and geopolitical barriers to cooperation, both democracies derive significant strategic advantage from establishing a "Non-Red" Supply Chain.

While Ukraine's UAV ecosystem is robust, it faces critical gaps in component manufacturing that Taiwan's mature electronics industry is uniquely positioned to fill. On Taiwan's side, in order to align the goals of both the private UAV industry and overall national security initiatives, it strives to access Ukraine's drone market and learn from its battle experience. To transition from ad-hoc assistance to a strategic alliance, Taiwan should consider the following recommendations:

Recommendation 1: Establish a "Volume-First" Component Supply Pipeline

To align with the immediate realities of the Ukrainian front, Taiwan must shift its focus from overly high-end, exquisite systems to the mass supply of 'good enough' cost-effective, consumable components that can be delivered quickly.

- **Targeted Component Categories:** Taiwan should promote Business-to-Business (B2B) partnerships specifically for **flight controllers and other microelectronics, battery cells, and motors**. These are components which Ukraine demonstrates the most need for, and that Taiwan is already capable of manufacturing. By dominating the supply of these sub-components, Taiwan secures a foothold in Ukraine's supply chain. Taiwan should offer long-term contracts to extend and secure partnerships.

- **Scale "Low-End" Chip Production:** Following advice from Ukrainian stakeholders, Taiwan should prioritize the short term export of commoditized, low-end microcontrollers and integrated circuits (ICs). For FPV drones in particular, quantity and speed often supersede distinct quality.²⁰³
- **Utilize ParaDiplomacy:** In the early stages of cooperation, due to sensitive political constraints between Taiwan and Ukraine, leveraging trilateral relations is a pathway to increase UAV cooperation. Solidifying R&D projects, increasing exports, and building more B2B agreements with Ukraine's neighboring countries, like Poland and Czechia, fosters engagement and contact—as experiences and products get spread to Ukraine.
- **Strategic Outcome:** This establishes Taiwan as the "foundry of democracy" for drone warfare, creating a long-term partnership where Ukraine—projected to become a global drone hub post-war—relies on Taiwanese inputs for its future exports.

Recommendation 2: Institutionalize a "Combat Feedback Loop" for R&D

Taiwan has the manufacturing prowess, but Ukraine possesses the "lessons learned" from high-intensity electronic warfare (EW) environments. A formal mechanism for knowledge transfer is essential.

- **Operationalize Lessons Learned:** Taiwan should establish a channel where Ukrainian feedback on component performance in GPS-denied environments is fed back to Taiwanese manufacturers. This allows Taiwan to adapt its domestic drone specifications to survive modern EW threats, a critical necessity for Taiwan's own drone strategies. This could be achieved through 3 main pathways:
 - Private Manufacturers **mandate a feedback requirement** on component and system sales.
 - Formalized **B2B or association to association tech partnerships** between Taiwanese manufacturers and Ukrainian defense integrators or military technology companies.

- **Contract and Pay Ukrainian entities** to validate Taiwanese products and components. As a positive byproduct, if the systems are successful, Ukrainian units will be more inclined to procure them.
- **Strategic Outcome:** By pursuing targeted partnerships, Taiwan is granted access to Ukraine's combat-proven technologies in exchange for manufacturing capacity.

Recommendation 3: Implement State-Backed Co-Production Investments

For long-term cooperation, European nations are currently outpacing Taiwan in localized coproduction initiatives by offering financial investments directly into Ukrainian companies. To be exact, over \$6 billion UAH (USD \$136.6M) in foreign financing has been allocated to Ukraine's defense industry.¹³⁴ To compete, Taiwan must offer similar state guarantees. Further, according to multiple Ukrainian interviewees, due to financial restraints and the geopolitical risks associated with establishing facilities in Taiwan, to initiate cooperation it is necessary that Taiwan first shoulder the monetary burdens.^{12,218} As Ukraine is currently not in a position to deny weapon production, an agreement between each nation's respective MND is practical.²¹⁸

- **Investment Insurance:** The Taiwanese government should offer investment funds for Ukrainian defense firms establishing joint ventures or production lines in Taiwan. This incentivizes coproduction, which is necessary for building long-term bonds. As the Ukrainian market is oversaturated with FPVs, this joint venture should **focus on long range drones, interceptors, or other high attribute drones** which both Ukraine and Taiwan are in need of and that Ukraine does not have a strong domestic foundational manufacturing base for. Taiwan especially needs to consider long range ISR drones in light of its maritime geography.^{277,278,279}
^{287,288} Some Taiwanese companies already have manufacturing capabilities for these models, as well as turbo-jet engines which are often utilized to produce them.^{13,277,278,279}

- **Balanced Localization and Co-production Strategy:** Taiwan must implement this plan which should maximize efficiency by localizing the mass production of drone types and components where domestic capacity is competent, while designating high-complexity types for joint ventures and co-production to rapidly scale capabilities. For one long term localization objective, **Taiwan should design and create high quality, drone specific semiconductors**—where it already has expertise and manufacturing aptitude. Taiwan's recent, various key chip subsidy programs aid this initiative. Interviews with Ukrainian drone manufacturers demonstrate an already existing desire to purchase these superior high end chips, specifically for their non-red characteristics and quality, and less in consideration of cost.²⁸⁹
- **Employment of new (Composite Braiding Machines) and old (Automotive, Precision Machining, Carbon Fiber Composite Material) manufacturing technologies:** Other industries can be shifted towards the mass production of UAVs. Ukraine is always looking for new methods and technologies that maximize efficiency. Taiwan, as a top manufacturer in many key sectors like semiconductors and precise engineering, has the prerequisite ecosystem for rapid prototyping. DSET interviews reveal that TW-UKR deals utilizing new Taiwanese manufacturing technologies for mass production of air frames has already occurred.
- **Startup Grants and Guarantees:** Taiwan should provide specific startup grants and guarantees for Ukrainian defense-tech firms to prototype in Taiwan, for Taiwanese firms to "launch" Ukrainian designs into the broader Asian market, or for Taiwanese firms to create subsidiaries in Ukraine or neighboring EU countries. Discernibly, analysis of Ukraine's joint ventures reveal that **all**

countries that 'Build in Ukraine' also have 'Build With Ukraine' enterprises. This reciprocity demonstrates that Ukraine deeply trusts—and reinvests in—the nations that support its growth. If Taiwan chooses to invest in Ukrainian facilities, it paves the way for Ukrainian companies to later establish themselves in Taiwan.

- **Strategic Outcome:** Like Ukraine's 'Danish Model' of cooperation, Taiwan needs to put trust into Ukraine's industry by investing and gradually partnership will build.²⁸⁷ As a result, Taiwan simultaneously accesses Ukraine's battle-tested technology, secures a domestic and self-reliant supply chain for high-attribution assets, and creates a long-term bond with a democratic ally.

Recommendation 4: Streamline Bureaucratic Processes for TW-UKR Partners

Bureaucratic friction remains a major bottleneck.

- **Simplify Bureaucratic Import Procedures** for Ukrainian companies partnered with Taiwanese companies to enter the Taiwanese market. For example, testing and classification procedures can be streamlined.
- **Strategic Outcome:** Taiwanese products become trusted, certified, and interoperable with other Ukraine's drones. This would increase exports and contribute to Taiwan's 'non-red' supply chain objectives. Simplified import and export regulations would likewise accelerate the pace at which feedback can be given and innovation occurs.

Recommendation 5: Support Educational Bridges

Technological hardware is useless without human capital. Long-term resilience requires a shared intellectual foundation.

- **Educational Exchanges:** Taiwan should organize long-term educational cooperation, for industry players and students alike, centered on defense technology and cybersecurity. Interviews suggest the critical need for Taiwanese companies in particular to get hands-on experience in Ukraine.²⁸⁷
- **Joint R&D Programs:** Taiwan should fund joint university research programs and participate in digital incubators. This includes the exchange of engineers and analysts to co-develop hardened communication links and anti-jamming modules.
- **Link Academia to Industry:** Universities drive research and innovation, making a pairing with industry pragmatic, as it bridges the gap between theory and practice. Ideas have more opportunities and access to become tangible developments.
- **Strategic Outcome:** Develop the next generation of talent that compounds Ukrainian and Taiwanese technology expertise. Concurrently, this deepens non-formalized diplomatic relations by creating enduring people to people connections. To stress the importance of this point, one interviewee even offered pro-bono educational training.²⁹⁰

Part X.

Interviewee Appendix

In developing this report, DSET interviewed 30 industry stakeholders across different sectors. In the summary of interviewee subjects, their status is divided into the following categories: Military (Active duty, veterans, paramilitaries), Government (Civil servants, diplomats, bureaucrats, Government Funded Projects), Civil Society/Expert (Academics, NGO workers), and Private (Business Community, Defense, Energy, Consulting). See Table 17 below.

Table 17: Interviewee Appendix

	Interviewee	Role	Origin	Status
1	A	Group of military technology companies	UKR	Private/ Defense
2	B	Independent non profit organization	UKR	Civilian
3	C	AI Defense technologies startup	UKR	Military
4	D	Defense tech co. focused on software and AI	Foreign	Private/ Defense
5	E	Company that designs and develops micro-UAVs	Foreign	Private/ Defense
6	F	Non-profit promoting the defense industry	TW	Private/ Business Community
7	G	Independent, non-governmental business community	Foreign	Private/ Business Community
8	H	Non-governmental organization	UKR	Civilian

9	I	Funded research organization on security and defense	UKR	Government
10	J	Strategic intelligence and risk consulting company	UKR	Private/ Consulting
11	K	Former Colonel, now directing a civilian charity	UKR	Military (ret.) / Civilian
12	L	Company that delivers autonomous drone systems	UKR	Private/ Defense
13	M	Company innovating energy technology	TW	Private/ Energy
14	N	Senior Lecturer, military and security consultant on the Russo-Ukrainian War to their respective Ministry of Foreign Affairs	Foreign	Civilian/ Academic
15	O	Retired Air Force Commandant and Director in the Ministry of Defense, Consulting for Ukrainian Ministry of Strategic Defense	Foreign	Military (ret.)
16	P	Senior Advisor on grand strategy and campaign design	Foreign	Government
17	Q	Non-governmental organization	TW	Civilian

18	R	Policy Research Organization	UKR	Private/ Nonprofit
19	S	Leading defense technology company	UKR	Private/ Defense
20	T	Leading UAV manufacturer	TW	Private/ Defense
21	U	Group of military technology companies	UKR	Private/ Defense
22	V	Independent research organization	UKR	Civilian
23	W	Thermal imaging camera company	UKR	Private/ Defense
24	X	Allied country representative to Taiwan	Foreign	Government
25	Y	Company focused on lithium-ion battery development	TW	Private/ Energy
26	Z	R&D Institution	TW	Government
27	AA	Autonomous Dual technology company	TW	Private
28	AB	Autonomous Dual technology company	Foreign	Private
29	AC	Develop, manufacture, and sell defense/ dual-use technology	TW	Government
30	AD	Top UAV Manufacturer	UKR	Private/ Defense

References

1. Taiwan Excellence Drone International Business Opportunities Alliance. (2026, January 22). *Membership exceeds 260: "Drone Alliance" first member meeting aims to obtain US certification this year* [會員突破 260 家「無人機聯盟」首次會員大會 目標今年取得美方認證]. TEDIBOA. <https://www.tediboa.com.tw/News/Article/9101>
2. Yu, X. (2026, January 25). *Drone non-red supply chain to be fully implemented next year... Cheng Li-chun sets new goals* [無人機全非紅鏈 明年落實...鄭麗君訂出新目標]. United Daily News. <https://udn.com/news/story/7238/9286856>
3. Customs Administration, Ministry of Finance. (2026, February 3). *Statistics graphs and tables*. <https://web.customs.gov.tw/en/htmlList/49c3daec218f4d658aa8e76e918e3fe4>
4. Doyle, G., & Rudnitsky, J. (2025, November 11). *Ukrainian drone industry's next target is NATO markets*. Bloomberg. <https://www.bloomberg.com/news/features/2025-11-11/ukraine-drone-industry-targets-nato-markets>
5. Ministry of Defence of Ukraine. (2025, October 15). *Air defense, missiles, drones, and long-range weapons – Denys Shmyhal outlines priorities at the Ramstein meeting*. <https://mod.gov.ua/en/news/air-defense-missiles-drones-and-long-range-weapons-denys-shmyhal-outlines-priorities-at-the-ramstein-meeting>
6. Kohanets, R. (2025, November 13). *Ukraine starts co-producing interceptor drones with US, aiming for 1,000 daily output*. United24 Media. <https://united24media.com/latest-news/ukraine-starts-co-producing-interceptor-drones-with-us-aiming-for-1000-daily-output-13382>
7. Everington, K. (2026, January 20). *Taiwan plans to buy 200,000 military drones*. Taiwan News. <https://www.taiwannews.com.tw/news/6285980>
8. Cabinet of Ministers of Ukraine. (2025, December 4). *Budget 2026: 100% of domestic revenues directed to national defence*. <https://www.kmu.gov.ua/en/news/biudzheth-2026-100-dokhodiv-na-oboronu-krainy>

9. Tiunn, H.-L., Fang, C., Lai, C.-K., Li, J., & Sun, R.-T. E. (2025, June 16). *Drones for democracy: U.S.-Taiwan cooperation in building a resilient and China-free UAV supply chain*. Research Institute for Democracy, Society and Emerging Technology. <https://dset.tw/en/research/drones-for-democracy-the-strategic-imperative-for-u-s-taiwan-uav-cooperation/>
10. Shumlianskyi, D. (2025, September 6). *Industrial associations from Ukraine and Taiwan agree on drone industry cooperation*. Militarnyi. <https://militarnyi.com/en/news/industrial-associations-from-ukraine-and-taiwan-agree-on-drone-industry-cooperation/>
11. Peng, W.-y., & Lee, H.-Y. (2025, September 3). *Taiwan signs MOU on drone cooperation with Poland, Ukraine*. Focus Taiwan. <https://focustaiwan.tw/sci-tech/202509030023>
12. DSET interview with A
13. DSET interview with F
14. DSET interview with G
15. Snake Island Institute. (2025, December). *Components of freedom* [Komponenty svobody]. <https://www.snakeisland.org/ua/reports/6936aa1503c36316520be2f8>
16. Kostezh, S. (2025, November 29). *Ukrainian drones and weapons head to Europe as exports expand*. Kyiv Post. <https://www.kyivpost.com/post/65105>
17. Bekdil, B. E. (2022, February 4). *Turkey and Ukraine to coproduce TB2 drones*. Defense News. <https://www.defensenews.com/global/europe/2022/02/04/turkey-and-ukraine-to-coproduce-tb2-drones/>
18. Quantum Systems. (2025, December 12). *First joint co-production of Ukrainian drones in Europe launched by Quantum Systems and Frontline Robotics*. <https://quantum-systems.com/news/first-joint-co-production-of-ukrainian-drones-in-europe-launched-by-quantum-systems-and-frontline-robotics/>

19. Zadorozhnyy, T. (2025, July 3). *Ukraine signs major drone co-production deal with US Swift Beat, Zelensky announces*. The Kyiv Independent.
<https://kyivindependent.com/ukraine-us-company-to-co-produce-hundreds-of-thousands-of-drones-in-2025-zelensky-announces-06-2025/>
20. Ministry of Defence of Ukraine. (2025, November 27). *Ukraine and the United Kingdom conclude licensing agreement for large-scale production of the Octopus interceptor drone*.
<https://mod.gov.ua/en/news/ukraine-and-the-united-kingdom-conclude-licensing-agreement-for-large-scale-production-of-the-octopus-interceptor-drone>
21. Zadorozhnyy, T. (2025, July 4). *Ukraine, Denmark sign deal to launch Ukrainian military production on Danish soil*. The Kyiv Independent.
<https://kyivindependent.com/ukraine-denmark-sign-deal-to-open-ukrainian-defense-facilities-on-danish-soil/>
22. *Defense Express*. (2024, July 3). *Hundreds of drones for Ukraine: Czech Republic launches production of reconnaissance and strike UAVs*.
https://en.defence-ua.com/weapon_and_tech/hundreds_of_drones_for_ukraine_czech_republic_launches_production_of_reconnaissance_and_strike_uavs-11051.html
23. Duerr, S. (2026, January 3). *Ukraine as a model, a warning, and a partner for Taiwan's drone industry*. The Diplomat.
<https://thediplomat.com/2026/01/ukraine-as-a-model-a-warning-and-a-partner-for-taiwans-drone-industry/>
24. Snake Island Institute. (2025, October 10). *Building the arsenal: Securing the components to sustain combat power*.
<https://www.snakeisland.org/reports/68e571b2a2c7854986bd7634>
25. Kuzio, T. (2025, October 7). *Russia's war transforms Ukraine into a world-leading military producer*. RealClearDefense.
https://www.realcleardefense.com/articles/2025/10/07/russias_war_transforms_ukraine_into_a_world-leading_military_producer_1139249.html

26. Executive Yuan, Republic of China (Taiwan). (2025, October 29). *Developing the drone industry*.

<https://english.ey.gov.tw/News3/9E5540D592A5FECD/07bcbd8d-3929-416e-8bfd-c2f17847cad5>

27. Public Construction Commission, Executive Yuan. (2025, July 22). *Public solicitation of reference materials from vendors under Article 34, Paragraph 1 of the Government Procurement Act* [依採購法第 34 條第 1 項公開徵求廠商提供參考資料]. Government e-Procurement System.

<https://web.pcc.gov.tw/tps/tp/common/TpAppeal/query/getInitialAppealView?pkTA=NzAwNzMyNTU=>

28. Tu, C.-M. (2025, November 24). *Progress on military purchase of 48,750 drones across 5 types starting next year! Armaments Bureau to hold vendor briefing on 27th* [國軍明年起大買 5 款 48750 架無人機有進度! 軍備局 27 日辦徵商說明會]. Liberty Times Net.

<https://def.ltn.com.tw/article/breakingnews/5256086>

29. Armaments Bureau, Ministry of National Defense. (2025, November 24). *Public solicitation of reference materials from vendors under Article 34, Paragraph 1 of the Government Procurement Act* [依採購法第 34 條第 1 項公開徵求廠商提供參考資料]. Government e-Procurement System.

<https://web.pcc.gov.tw/tps/tp/common/TpAppeal/query/getInitialAppealView?pkTA=NzAwODU4ODQ=>

30. Military News Agency [軍聞社]. (2025, August 14). *National Defense Online - Independent Military Equipment Development: Building a More Resilient and Powerful Defense Force* [國防線上 - 國防自主軍備研製》打造更堅韌有力的防衛力量] [Video].

YouTube. <https://www.youtube.com/watch?v=dIVGvdZUelA&t=202s>

31. Jiang, Z. (2025, November 27). *Cabinet approves 1.25 trillion special defense budget draft: A look at the 7 major combat readiness upgrade goals* [政院拍板 1.25 兆國防特別預算草案 7 大戰備升級目標一次看]. PTS News.

<https://news.pts.org.tw/article/783228>

32. Fang, W.-L. (2026, January 22). *Ministry of National Defense: Priority on domestic production for procurement of over 200,000 drones* [國防部：採購 20 餘萬架無人機 國產優先]. Liberty Times Net. <https://def.ltn.com.tw/article/breakingnews/5318422>

33. Huang, C.-h. (2026, January 27). *Defense budget delay could stall upgrades: Koo*. Taipei Times. <https://www.taipeitimes.com/News/front/archives/2026/01/27/2003851276>;
Formosan Association for Public Affairs. (2026, March 2). Taiwan's legislature to review special defense budget; China's cyber special operations revealed; commemorating the 228 massacre. <https://fapa.org/2026-0302-taiwans-legislature-to-review-special-defense-budget-chinas-cyber-special-operations-revealed-commemorating-the-228-massacre/>

34. Song, J., Huang, S., & Li, X. (2025, November 5). Automated vehicles present a multi-billion-dollar business opportunity! Government releases orders in three stages, AIDC, Thunder Tiger, etc., compete for bids [無人載具千億商機起飛！政府三階段釋單，漢翔、雷虎等搶攻標案]. TechNews. <https://finance.technews.tw/2025/11/05/automated-vehicles-present-a-multi-billion-dollar-business-opportunity/>

35. Chung, L.-H. (2025, October 16). *Cabinet approves 6-year, 44.2 billion plan to develop drone industry; government to procure 100,000 units* [行政院拍板 6 年 442 億發展無人機產業 政府將採購 10 萬架]. Liberty Times Net. <https://news.ltn.com.tw/news/politics/breakingnews/5213158>

36. Chung, L.-h., & Younger, H. (2025, October 17). *Ministry pushes NT\$44.2 billion drone development*. Taipei Times. <https://www.taipeitimes.com/News/front/archives/2025/10/17/2003845611>

37. Tu, C.-M. (2025, November 4). *Exclusive: Military plans to buy 635 portable anti-drone systems, plans to use 9.6 billion special budget* [獨家》國軍擬買 635 套可攜式無人機反制系統 計畫動用 96 億特別預算]. Liberty Times Net. <https://def.ltn.com.tw/article/breakingnews/5234129>

38. Japan UAS Industrial Development Association. (2025, June 4). JUIDA and TEDIBOA sign MOU at Japan Drone 2025 – Advancing peaceful use of drones and Japan-Taiwan industrial collaboration. <https://uas-japan.org/information/36562/>; Blue Innovation Co., Ltd. [ブルーイノベーション株式会社]. (2025, July 1). Signed a memorandum of understanding with Taiwanese drone manufacturer Aeroprobing regarding the overseas sales of drone solutions [台湾のドローンメーカー Aeroprobing 社とドローンソリューションの海外販売に関する覚書 (MOU) を締結]. <https://www.blue-i.co.jp/news/release/20250701.html>; Drone Journal Editorial Department [ドローンジャーナル編集部]. (2025, August 7). GMG and Taiwan's Mingwang Technology Form Strategic Partnership to Enter Full-Scale Drone Market [GMG と台湾の銘旺科技が戦略提携、ドローン市場に本格展開]. Drone journal [ドローンジャーナル]. <https://drone-journal.impress.co.jp/docs/news/1187587.html>; Institute of Industrial Technology [工業技術研究院]. (2025, August 29). ITRI and Kawasaki Heavy Industries, a Japanese manufacturing giant, join forces to create a new era of robots, drones, and green sustainability [工研院與日本製造巨擘川崎重工強強聯手共創機器人、無人機與綠色永續新局]. https://www.itri.org.tw/ListStyle.aspx?DisplayStyle=01_content&SiteID=1&MmmID=1036276263153520257&MGID=114082908145038078
39. Wu, J., & Lee, C.-y. (2025, December 12). *Taiwan, Poland sign drone industry MOU to build non-China supply chain*. Focus Taiwan. <https://focustaiwan.tw/society/202512120005>
40. Duerr, S., & Lin, T.-W. (2025, October 14). [DSET Drone Newsletter] *Taipei Aerospace & Defense Technology Exhibition (TADTE) spotlights new drone partnerships; Thunder Tiger debuts into Blue UAS & NATO spurred into action*. Research Institute for Democracy, Society, and Emerging Technology. <https://dset.tw/en/research/dset-drone-newsletter-eng1/>
41. Office of the President, Republic of China (Taiwan). (2024, December 9). *President Lai meets delegation led by Oklahoma Governor Kevin Stitt*. <https://english.president.gov.tw/News/6869>
42. Huang, C.-H. (2025, December 14). *Exclusive: Not just signing MOU, Lin Chia-lung confirms Taiwan has "joint venture" with Poland in drone industry* [獨家》不只簽 MOU 林佳龍證實台灣已與波蘭「合資」無人機產業]. Liberty Times Net. <https://news.ltn.com.tw/news/politics/breakingnews/5277746>

43. Wu, C.-f. (2025, September 16). *Taiwan's drone golden age is coming! 6 Taiwanese factories grab international orders to replace Chinese manufacturing, only one weakness left?* [台灣無人機盛世來臨! 6家台廠搶國際訂單 取代中國製造只差一個弱點?]. CommonWealth Magazine. <https://www.cw.com.tw/article/5137378>
44. TEDIBOA. (n.d.). *Taiwan Drone Alliance exhibits in Japan, joining hands with Japan to build a transnational supply chain* [台灣無人機聯盟赴日參展 攜手日本打造跨國供應鏈]. <https://www.tediboa.com.tw/News/Article/70>
45. Lin, S. (2025, October 22). *Taiwan to launch 'drone diplomacy' initiative to aid allies*. Focus Taiwan. <https://focustaiwan.tw/politics/202510220025>
46. Basilio, K. C. L. (2025, December 28). *Taiwan open to drone cooperation with PHL amid regional tensions*. BusinessWorld. <https://www.bworldonline.com/the-nation/2025/12/28/721378/taiwan-open-to-drone-cooperation-with-phl-amid-regional-tensions/>
47. Ministry of Economic Affairs (MOEA). (2025, November 20). Current status and promotion strategies of the UAV industry [Conference presentation]. Development Briefing for the Minxiong Aerospace and UAV Industrial Park, Taiwan.
48. Ministry of Economic Affairs. (2025, September 23). Ministry of Economic Affairs promotes "Subsidy program for autono development of key drone chips and modules," awarding 326 million to 7 companies to accelerate domestic production of AI image chips and flight control systems [經濟部推動「無人機關鍵晶片及模組自主開發研發補助計畫」7家廠商共獲3.26億補助 加速AI影像晶片及飛控系統國產化]. https://www.moea.gov.tw/MNS/Populace/news/News.aspx?kind=1&menu_id=40&news_id=120531
49. Auterion. (2025, June 17). *Auterion and Taiwan's NCSIST announce strategic partnership to power next-generation defense drones*. <https://auterion.com/auterion-and-taiwans-ncsist-announce-strategic-partnership-to-power-next-generation-defense-drones/>

50. DIGITIMES. (2025, June 26). *Taiwan's Thunder Tiger joins forces with US Auterion to bring AI smarts to drones and unmanned vehicles across air, land, and sea.*
<https://www.digitimes.com/news/a20250626PD237/thunder-tiger-defense-strategic-partnership-taiwan-2025.html>
51. Sysgration. (2025, July 24). *Sysgration partners with Vantage Robotics to advance smart drone applications in inspection and public safety.*
<https://amd.sysgration.com/en/news-events/newsletter/334-sysgration-partners-with-vantage-robotics-to-advance-smart-drone-applications-in-inspection-and-public-safety>
52. Peng, W.-y. (2025, September 3). *Taiwan signs MOU with Polish and Ukrainian companies to deepen drone cooperation* [台灣與波蘭、烏克蘭業者簽 MOU 深化無人機合作]. Central News Agency. <https://www.cna.com.tw/news/aip/202509030309.aspx>
53. Quantum Systems. (2025, September 10). *Quantum Systems partners with Sysgration to localize UAS production and sustainment in Taiwan.*
<https://quantum-systems.com/news/quantum-systems-partners-with-sysgration/>
54. Shield AI. (2025, September 11). *Shield AI and AIDC sign teaming agreement to advance Taiwan's defense capabilities.*
<https://shield.ai/shield-ai-and-aidc-sign-teaming-agreement-to-advance-taiwans-defense-capabilities/>
55. TEKEVER. (2025, September 18). *TEKEVER and Apex partner to deliver advanced ISR drone capabilities to Taiwan.*
<https://www.tekever.com/news/tekever-and-apex-partner-to-deliver-advanced-isr-drone-capabilities-to-taiwan/>
56. Zhuge, Z. [諸葛志一]. (2025, September 16). *Taiwan Color Optics Technology demonstrates national defense autonomy: Multiple types of drones and countermeasure systems gather at the defense exhibition* [台灣彩光科技展現國防自主能量 多型無人機與反制系統齊聚國防展 [台灣彩光科技展現國防自主能量 多型無人機與反制系統齊聚國防展]. Mypeople.tw [民眾網]. <https://news.pchome.com.tw/living/mypeople/20250916/index-75799117812249219009.html>

57. Yang, T.-C. (2025, September 18). *Yijie builds a complete supply chain for domestic drones* [益捷 打造國產無人機完整供應鏈]. Economic Daily News.
<https://money.udn.com/money/story/11799/9011937>
58. Li, F.-C. (2025, September 18). *Solution Consulting: The best partner for the global drone industry* [方案諮詢 全球無人機產業最佳合作夥伴]. Economic Daily News.
<https://money.udn.com/money/story/11799/9011811>
59. AeroVironment, Inc. (2025, September 18). *AV signs strategic partnership with Taiwan's National Chung-Shan Institute of Science and Technology*.
<https://www.avinc.com/resources/press-releases/view/av-signs-strategic-partnership-with-taiwans-national-chung-shan-institute-of-science-and-technology>
60. Anduril Industries. (2025, August 4). *Anduril expands commitment to Taiwan with new capabilities, partnerships and local investment*.
<https://www.anduril.com/article/anduril-expands-commitment-to-taiwan-with-new-capabilities-partnerships-and-local-investment/>
61. Yu, M., & Kao, E. (2025, September 19). *NCSIST signs defense deals with six foreign firms*. Focus Taiwan. <https://focustaiwan.tw/politics/202509190009>
62. Northrop Grumman. (2025, September 19). *Northrop Grumman and NCSIST sign MOU to collaborate on air and missile defense capabilities*.
<https://news.northropgrumman.com/partnerships/Northrop-Grumman-and-NCSIST-Sign-MOU-to-Collaborate-on-Air-and-Missile-Defense-Capabilities>
63. Northrop Grumman. (2025, September 19). *Northrop Grumman teams with industry partners to deliver advanced radar to Taiwan*.
<https://news.northropgrumman.com/partnerships/Northrop-Grumman-Teams-with-Industry-Partners-to-Deliver-Advanced-Radar-to-Taiwan>
64. Chiang, M.-y. (2025, September 19). *AIDC allies with US MAXAR to enhance drone precision flight* [漢翔結盟美國 MAXAR 提升無人機精準飛行]. Central News Agency.
<https://www.cna.com.tw/news/afe/202509190219.aspx>

65. Carbon-Based Technology Inc. (n.d.). *Carbon-Based Technology participates in the 2025 Defense and Aerospace Exhibition; President Lai Ching-te visits the booth to focus on unmanned systems and new paradigms in smart manufacturing* [碳基科技參與 2025 國防航太展 總統賴清德親臨攤位關注無人系統與智慧製造新典範].

https://www.uaver.com/article_d.php?lang=tw&tb=4&id=2117

66. CMoney. (2025, September 16). *Bosa Industrial Group (BOSA), an American company, joined forces with AbonMax Group, a Taiwanese company, and Carbon-Based Technology* [美商 Bosa Industrial Group (BOSA) 攜手臺灣銘旺科技集團 (AbonMax Group) , 與碳基科技 (Carbon-Based Technology)].

<https://www.cmoney.tw/forum/article/173773619>

67. Chen, X.-y. (2025, September 20). *Fong Jaw Aerospace partners with US firms to create a new era of drone systems* [豐兆航太聯手美廠 共創無人機系統新時代]. Economic Daily News. <https://money.udn.com/money/story/5635/9017722>

68. Aerospace Industrial Development Corporation. (2025, September 20). *AIDC focuses on carbon fiber composite 3D printing and partners with US Orbital Composites to create a new landscape in aerospace manufacturing* [漢翔聚焦碳纖複材 3D 列印 與美國 Orbital Composites 開創航空製造新格局]. <https://www.aidc.com.tw/tw/news/623>

69. Jiin Ming Industry Co., Ltd. (2025, September 18). *Industry leaders witness: Jiin Ming Industry signs international cooperation MOU* [產業領袖見證 錦明實業簽署國際合作 MOU]. <https://jimg.com.tw/%e7%94%a2%e6%a5%ad%e9%a0%98%e8%a2%96%e8%a6%8b%e8%ad%89-%e9%8c%a6%e6%98%8e%e5%af%a6%e6%a5%ad%e7%b0%bd%e7%bd%b2%e5%9c%8b%e9%9a%9b%e5%90%88%e4%bd%9c-mou/>

70. Naumienko, M. (2025, September 29). *Memorandum of understanding between companies from Poland and Taiwan*. UAV Chamber Poland.

<https://pisb.pl/en/memorandum-of-understanding-between-companies-from-poland-and-taiwan/>

71. Jiin Ming Industry Co., Ltd. (2025, February 12). *Jiin Ming Industry expands European presence: Partners with Polish Poltaiw Apex* [錦明實業拓展歐洲版圖 攜手波蘭 Poltaiw Apex]. <https://jimg.com.tw/%e9%8c%a6%e6%98%8e%e5%af%a6%e6%a5%ad%e6%8b%93%e5%b1%95%e6%ad%90%e6%b4%b2%e7%89%88%e5%9c%96-%e6%94%9c%e6%89%8b%e6%b3%a2%e8%98%ad-poltaiw-apex/>

72. Lu, Y.-S. (2025, September 25). *Bloomberg: Poland avoids Chinese-made parts and becomes the largest buyer of Taiwan's drones* [彭博：波蘭避免用中國製零件 成為台灣無人機最大買家]. Liberty Times Net. <https://def.ltn.com.tw/article/breakingnews/5190868>
73. Svyrydiuk, Y., & Pashko, V. (2025, July 21). *Umerov: 95% droniv, yaki vykorystovuiut na fronti — zrobleni v Ukraini* [Umerov: 95% of drones used at the front are made in Ukraine]. Suspilne Novyny. <https://suspilne.media/1071869-umerov-95-droniv-aki-vikoristovuu-na-fronti-zrobleni-v-ukraini/>
74. Bloomberg. (2025, June 17). *Auterion strikes deal with Taiwan for unmanned drone software*. <https://www.bloomberg.com/news/articles/2025-06-17/auterion-strikes-deal-with-taiwan-for-unmanned-drone-software>
75. Yu, K.-h. (2025, September 18). *US assesses Taiwan can build loitering munition supply chain in 18 months, South Korea in 24 months* [美評台灣 18 個月可建置遊蕩彈藥供應鏈 韓國 24 個月]. Central News Agency. <https://www.cna.com.tw/news/aip/202509180285.aspx>
76. Chen, C.-c. (2025, September 18). *NCSIST and MARTAC sign cooperation MoU: M18/T18 unmanned surface vessels expected to be introduced to Taiwan* [中科院、MARTAC 簽合作 MoU M18/T18 無人艇有望引進台灣]. Liberty Times Net. <https://def.ltn.com.tw/article/breakingnews/5182580>
77. Luo, T.-P. (2025, December 9). *Attack range reaches 1000 km: 'Jinfeng No. 4' drone to be tested in the US next January* [攻擊範圍可達 1000 公里 「勁蜂四號」無人機明年一月在美測試]. Liberty Times Net. <https://def.ltn.com.tw/article/breakingnews/5272171>
78. Yu, K.-h. (2025, September 18). *NCSIST introduces streamer rocket combined with anti-drone system; verification at Jiupeng by year-end* [中科院導入彩帶火箭彈結合反無人機系統 年底九鵬驗證]. Central News Agency. <https://www.cna.com.tw/news/aip/202509180273.aspx>
79. Wu, C.-h. (2025, December 12). *Taiwan drone alliance promotes cooperation with Poland to build non-red supply chain* [台灣無人機聯盟推動與波蘭合作 打造非紅供應鏈]. Economic Daily News. <https://money.udn.com/money/story/5612/9198589>

80. Space Chiayi. (2025, September 19). *Taipei Aerospace Exhibition four-party MOU signing: TÜV Rheinland helps Taiwan drones fly into the European market* [台北航太展四方簽署 MOU 德國萊因助台無人機飛歐洲市場]. Asia UAV AI Innovation Application R&D Center. <https://spacechiayi.tw/?p=3066>
81. Chiang, M.-y. (2025, June 4). *Taiwan drone alliance signs memorandum with Japanese industry association to integrate supply chain* [台灣無人機聯盟與日產業協會簽署備忘錄 整合供應鏈]. Economic Daily News. <https://money.udn.com/money/story/5612/8784826>
82. Taiwan Excellence Drone Industry Business Opportunities Alliance. (2025, March 25). *Ministry of Economic Affairs guides ITRI to facilitate Taiwan-Japan cooperation; Taiwan Drone Alliance enters Japanese market* [經濟部指導工研院促成台日合作 台灣無人機聯盟跨入日本市場]. <https://www.tediboa.com.tw/News/Article/49>
83. Tsai, C.-m. (2025, October 20). *Promoting drone industry development, Chiayi County to become R&D and manufacturing center* [推動無人機產業發展 嘉縣將成研發與製造中心]. Central News Agency. <https://www.cna.com.tw/news/aip/202510200074.aspx>
84. Liu, Y.-Y. (2024, October 23). "NCSIST Minxiong campus to open in 2026: 1.1 billion invested to establish "Drone AI Computing Center" [民雄園區 2026 年投產軍規無人機用 AI 算力、氫儲能電網向產業招手]. Liberty Times Net. <https://def.ltn.com.tw/article/breakingnews/4839851>
85. Pan, C.-c. (2025, September 22). *Thunder Tiger's suicide drone obtains US Blue UAS certification, targets domestic and international tenders* [雷虎自殺無人機獲美 Blue UAS 認證 搶攻國內外標案]. Central News Agency. <https://www.cna.com.tw/news/afe/202509220039.aspx>
86. Defense Innovation Unit. (n.d.). *Blue UAS cleared list*. Retrieved February 8, 2026, from <https://bluelist.appsplatformportals.us/>
87. Association for Uncrewed Vehicle Systems International. (2026, January 28). *AUVSI and Taiwan's ITRI sign agreement in Washington, DC as ITRI joins Green UAS program as recognized cybersecurity assessor*. <https://www.auvsi.org/news/auvsi-and-taiwans-itri-sign-agreement-in-washington-dc-as-itri-joins-green-uas-program-as-recognized-cybersecurity-assessor/>

88. Association for Uncrewed Vehicle Systems International. (n.d.). *Green UAS*. Retrieved February 8, 2026, from <https://www.auvsi.org/certification-training/green-uas/>
89. Federal Communications Commission. (2026, January 7). *FCC updates covered list to exempt certain drones and releases FAQs* [Fact sheet]. <https://www.fcc.gov/document/fcc-updates-covered-list-exempt-certain-drones-and-releases-faqs>
90. Chen, L.-f. (2025, May 29). *AIDC becomes the first Taiwanese manufacturer to obtain US DoD CMMC Level 2 certification* [漢翔成為台灣首家獲得美國防部 CMMC Level2 認證廠商]. Economic Daily News. <https://money.udn.com/money/story/5612/8773540>
91. U.S. Department of Defense. (n.d.). *Cybersecurity Maturity Model Certification*. Retrieved February 8, 2026, from <https://dodcio.defense.gov/CMMC/Model/>
92. Wang, J. (2025, December 1). *Commercial-grade military drones cannot be exported for 'this reason': Wellington Koo: NSC should conduct inter-ministerial coordination* [軍用商規無人機「這原因」無法出口 顧立雄：國安會應進行跨部會協調]. Up Media. <https://www.upmedia.mg/tw/focus/politics/246156>
93. Yu, H.-h., & Thompson, J. (2025, November 30). *New rules for Taiwanese drone sellers, importers to take effect Monday*. Focus Taiwan. <https://focustaiwan.tw/society/202511300017>
94. Tseng, C.-y. (2025, November 17). *Ministry of Economic Affairs revises export control list, adding 3 categories including advanced semiconductor equipment* [首頁 / 產經經部修正出口管制清單 新增先進半導體設備等 3 類]. Central News Agency. <https://www.cna.com.tw/news/afe/202511170111.aspx>
95. Militarnyi. (2024, February 6). *President approves creation of Unmanned Systems Forces of the Ukrainian Armed Forces*. <https://militarnyi.com/en/news/president-approves-creation-of-unmanned-systems-forces-of-the-ukrainian-armed-forces/>
96. RBC-Ukraine. (2024, September 3). *Ukrainian parliament approves Unmanned Systems Forces as separate branch of military*. <https://newsukraine.rbc.ua/news/ukrainian-parliament-approves-unmanned-systems-1725367292.html>

97. Cabinet of Ministers of Ukraine. (2023, March 24). *Mass production start: Government adopts resolution creating better conditions for UAV manufacturers in Ukraine.* <https://www.kmu.gov.ua/en/news/masovyi-start-vyrobnystva-uriad-ukhvalyv-postanovu-iaka-stvoriuie-krashchi-umovy-dlia-vyrobnikiv-bpla-v-ukraini>
98. Ukrinform. (2024, December 22). *Ukraine regulates drone and electronic warfare equipment purchases during martial law.* <https://www.ukrinform.net/rubric-ato/3940704-ukraine-regulates-drone-and-electronic-warfare-equipment-purchases-during-martial-law.html>
99. Sokolovskyi and Partners. (2023, August 3). *Drone industry insights: Regulation of drone industry amid martial law—What's new during July 2023?* <https://sk.ua/drone-industry-insights-regulation-of-drone-industry-amid-martial-law-what-s-new-during-july-2023/>
100. DSET interview with B
101. Ministry of Defence of Ukraine. (2024, June 6). *The Ministry of Defence's Defence Procurement Agency (DPA) introduces a new procurement model for unmanned systems.* <https://mod.gov.ua/en/news/the-ministry-of-defence-s-defence-procurement-agency-dpa-introduces-a-new-procurement-model-for-unmanned-systems>
102. UNN. (2024, July 23). *For drones, demining and more: Parliament expanded tax benefits and customs duty exemptions for defense needs.* <https://unn.ua/en/news/for-drones-demining-and-more-parliament-expanded-tax-benefits-and-customs-duty-exemptions-for-defense-needs>
103. Ministry of Strategic Industries of Ukraine. (n.d.). *Reservation of employees (Broniuvannia).* Zbroya.gov.ua. Retrieved February 8, 2026, from <https://www.zbroya.gov.ua/en/services/broniuvannia>
104. Addario, L., Berehulak, D., & Gibbons-Neff, T. (2025, March 3). *The drone war in Ukraine: A relentless hunt for life.* The New York Times. <https://www.nytimes.com/interactive/2025/03/03/world/europe/ukraine-russia-war-drones-deaths.html>

105. Schmidt, E. (2024, July 3). *Ever faster weapon cycles: Innovation and economics in the war in Ukraine*. The Strategist.
<https://www.aspistrategist.org.au/ever-faster-weapon-cycles-innovation-and-economics-in-the-war-in-ukraine/>
106. Matlack, C., Schwartz, L., & Gill, J. (2025, April 5). *Drones, defense, and the future of conflict* [Policy report]. LSE IDEAS.
<https://www.lse.ac.uk/ideas/Assets/Documents/2025-04-05-DRONES-MatlackSchwartzGill-FINAL-WEB-03.pdf>
107. Tech Force in UA. (2024, October 11). *Security risks are cited as the main reason for relocation*.
<https://techforce.in.ua/en/news/article/golovnoyu-prichinoyu-relokaciyi-nazivayut-bezpekovi-riziki>
108. Ministry of Defence of Ukraine. (2025, November 24). *First 100,000 FPV drones delivered to Ukrainian military through the DOT-Chain Defence procurement platform*.
<https://mod.gov.ua/en/news/first-100-000-fpv-drones-delivered-to-ukrainian-military-through-the-dot-chain-defence-procurement-platform>
109. Ministry of Defence of Ukraine. (2025, December 2). *MoD reports: Over UAH 6 billion worth of equipment delivered to the military through DOT-Chain Defence*.
<https://mod.gov.ua/en/news/mo-d-reports-over-uah-6-billion-worth-of-equipment-delivered-to-the-military-through-dot-chain-defence>
110. Ministry of Defence of Ukraine. (2025, September 29). *Within two months of DOT-Chain Defence's launch, the military ordered nearly 17,000 UAVs worth about UAH 600 million*.
<https://mod.gov.ua/en/news/within-two-months-of-dot-chain-defence-s-launch-the-military-ordered-nearly-17-000-ua-vs-worth-about-uah-600-million>
111. Ministry of Defence of Ukraine. (2025, November 5). *Frontline units to receive additional electronic warfare assets via DOT-Chain Defence*.
<https://mod.gov.ua/en/news/frontline-units-to-receive-additional-electronic-warfare-assets-via-dot-chain-defence>

112. Ministry of Defence of Ukraine. (2025, November 26). *Interceptor drones now available to the military through DOT-Chain Defence*.
<https://mod.gov.ua/en/news/interceptor-drones-now-available-to-the-military-through-dot-chain-defence>
113. Ministry of Defence of Ukraine. (2025, December 31). *Anti-Shahed drones to be supplied to the military through DOT-Chain Defence*.
<https://mod.gov.ua/en/news/anti-shahed-drones-to-be-supplied-to-the-military-through-dot-chain-defence>
114. Ministry of Defence of Ukraine. (2026, January 10). *Defence City launch, record interceptor drone deliveries, and procurement reform: The Ministry of Defence's highlights of the week*.
<https://mod.gov.ua/en/news/defence-city-launch-record-interceptor-drone-deliveries-and-procurement-reform-the-ministry-of-defence-s-highlights-of-the-week>
115. DSET interview with T
116. Wild Hornets. (n.d.). *Wild Hornets: Ukrainian manufacturer of FPV drones*. Retrieved February 9, 2026, from <https://dykishershni.com/en.html>
117. Ministry of Defence of Ukraine. (2025, October 28). *Minister of Defence briefed the President on key results achieved in the first 100 days and the next priority steps*.
<https://mod.gov.ua/en/news/minister-of-defence-briefed-the-president-on-key-results-achieved-in-the-first-100-days-and-the-next-priority-steps>
118. Ministry of Defence of Ukraine. (2025, October 30). *MoD allocates additional UAH 1.9 billion for drone procurements via DOT-Chain Defence*.
<https://mod.gov.ua/en/news/mo-d-allocates-additional-uah-1-9-billion-for-drone-procurements-via-dot-chain-defence>
119. Ministry of Defence of Ukraine. (2025, November 7). *Lieutenant General Ivan Havryliuk: In 2026, 70% of UAV procurements will be conducted through DOT-Chain Defence*. <https://mod.gov.ua/en/news/lieutenant-general-ivan-havryliuk-in-2026-70-of-uav-procurements-will-be-conducted-through-dot-chain-defence>

120. Ministry of Defence of Ukraine. (2026, January 1). *Denys Shmyhal: From January 1, all military procurement is centralized under the MoD Defence Procurement Agency*. <https://mod.gov.ua/en/news/denys-shmyhal-from-january-1-all-military-procurement-is-centralized-under-the-mo-d-defence-procurement-agency>
121. Ministry of Defence of Ukraine. (2025, November 6). *Army corps of the Ukrainian Land Forces roll out the 'Impulse' system*. <https://mod.gov.ua/en/news/army-corps-of-the-ukrainian-land-forces-roll-out-the-impulse-system>
122. DSET interview with D
123. DSET interview with E
124. Ministry of Defence of Ukraine. (2026, January 23). *Share of Ukrainian manufacturers in military procurement rises to 82%*. <https://mod.gov.ua/en/news/share-of-ukrainian-manufacturers-in-military-procurement-rises-to-82>
125. Bermudez, J. S., Jr., & Cha, V. (2024, September 10). *Why China's UAV supply chain restrictions weaken Ukraine's negotiating power*. Center for Strategic and International Studies. <https://www.csis.org/analysis/why-chinas-uav-supply-chain-restrictions-weaken-ukraines-negotiating-power>
126. Mugin UAV. (2023, July 31). *China will place export controls on UAV products*. <https://www.muginuav.com/china-will-place-export-controls-on-uav-products/>
127. Zhang, J., Soliman, T. A., Parry, J. L., & Colson, S. L. (2024, February 1). *Key changes and updates to Chinese export controls in 2023*. Mayer Brown. <https://www.mayerbrown.com/en/insights/publications/2024/02/key-changes-and-updates-to-chinese-export-controls-in-2023>
128. Meest China. (2024, August 27). *Changes in export inspections from China*. <https://meest.cn/news/zmini-v-eksportnih-perevirkah-z-kitayu/>

129. Tech Force in UA. (n.d.). *Counter of weapons that don't exist*. Retrieved February 9, 2026, from <https://zbroya.online/en/counter>

130. Fratsyvir, A. (2025, June 24). *Ukraine can produce 8 million drones annually but needs funding, Zelensky says at NATO summit*. The Kyiv Independent. <https://kyivindependent.com/ukraine-can-produce-8-million-drones-annually-needs-investments-zelensky-says06-2025/>

131. Cabinet of Ministers of Ukraine. (2022, November 11). *On approval of the specifics of defense procurement of goods, works, and services to meet the needs of the security and defense sector for the period of the legal regime of martial law* [Pro zatverdzhennia osoblyvostei zdiisnennia oboronnykh zakupivel tovariv, robit i posluh dlia zabezpechennia potreb sektoru bezpeky i oborony na period dii pravovoho rezhymu voiennoho stanu] (Resolution No. 1275). <https://zakon.rada.gov.ua/laws/show/1275-2022-%D0%BF#Text>

132. Tech Force in UA. (n.d.). *The lifecycle of weapons and military equipment*. Retrieved February 9, 2026, from <https://zbroya.online/en/lifecycle>

133. Reuters. (2025, November 3). *Ukraine to set up arms export offices in Berlin, Copenhagen, Zelenskiy says*. <https://www.reuters.com/world/europe/ukraine-set-up-arms-export-offices-berlin-copenhagen-zelenskiy-says-2025-11-03/>

134. Ministry of Defence of Ukraine. (2025, December 27). *\$45 billion from partners, over 3 million strike drones, more Ukrainian weapons: Key Ministry of Defence highlights*. <https://mod.gov.ua/en/news/45-billion-from-partners-over-3-million-strike-drones-more-ukrainian-weapons-key-ministry-of-defence-highlights>

135. Ministry of Defence of Ukraine. (2025, November 5). *Denys Shmyhal and Latvian Defence Minister sign memorandum on strengthening defence-industrial cooperation between Ukraine and Latvia*. <https://mod.gov.ua/en/news/denys-shmyhal-and-latvian-defence-minister-sign-memorandum-on-strengthening-defence-industrial-cooperation-between-ukraine-and-latvia>

136. Ministry of Defence of Ukraine. (2025, November 6). *Denys Shmyhal and Sweden's Defence Minister sign Letter of Intent on partnership in defence innovation*.
<https://mod.gov.ua/en/news/denys-shmyhal-and-sweden-s-defence-minister-sign-letter-of-intent-on-partnership-in-defence-innovation>
137. Kot, R., & Oleniak, L. (2025, November 11). *Behind closed doors: How US and Ukraine are shaping billion-dollar drone deal*. RBC-Ukraine.
<https://newsukraine.rbc.ua/analytics/behind-closed-doors-how-us-and-ukraine-are-1762848628.html>
138. Ministry of Defence of Ukraine. (2025, November 12). *Sergiy Boyev discusses defence industry cooperation with French delegation*.
<https://mod.gov.ua/en/news/sergiy-boyev-discusses-defence-industry-cooperation-with-french-delegation>
139. Ministry of Defence of Ukraine. (2025, March 13). *Ukraine and Finland have signed a Memorandum of Defence Cooperation, with the announcement of the 28th Assistance Package*.
<https://mod.gov.ua/en/news/ukraine-and-finland-have-signed-a-memorandum-of-defence-cooperation-with-the-announcement-of-the-28th-assistance-package>
140. Prime Minister's Office, 10 Downing Street, & Ministry of Defence. (2025, June 23). *Front line drone technology to fuel UK - Ukraine partnership*. GOV.UK.
<https://www.gov.uk/government/news/front-line-drone-technology-to-fuel-uk-ukraine-partnership>
141. Michalopoulos, S. (2025, November 18). *Greece and Ukraine decide to co-produce sea drones*. Euractiv.
<https://www.euractiv.com/news/greece-and-ukraine-decide-to-co-produce-sea-drones/>
142. *Kathimerini*. (2025, November 17). *Athens and Kyiv seal naval drone deal*.
<https://www.ekathimerini.com/politics/foreign-policy/1287050/athens-and-kyiv-seal-naval-drone-deal/>

143. Ministry of National Defence of the Republic of Lithuania. (2024, November 5). *Cooperation agreement on defence industry development between Lithuania and Ukraine signed.*
<https://kam.lt/en/cooperation-agreement-on-defence-industry-development-between-lithuania-and-ukraine-signed/>
144. Office of the President of Ukraine. (2025, June 25). *Denmark to become the first country with which we will launch joint production of long-range drones and missiles outside Ukraine – President.*
<https://www.president.gov.ua/en/news/daniya-stane-pershoyu-krayinoyu-z-yakoyu-mi-zapustimo-spilne-98641>
145. Office of the President of Ukraine. (2025, July 14). *Ukraine and Denmark expand joint production of three types of drones and will continue developing the Danish model.* <https://www.president.gov.ua/en/news/ukrayina-j-daniya-rozshiryuyut-spilne-virobnictvo-droniv-tro-99017>
146. Defense Express. (2025, July 22). *Ukraine teams up with F-35 supplier to develop AI-powered drone interceptor.*
https://en.defence-ua.com/weapon_and_tech/ukraine_teams_up_with_f_35_supplier_to_develop_ai_powered_drone_interceptor-15212.html
147. Denisova, K. (2024, April 19). *German drone manufacturer opens factory in Ukraine.* *The Kyiv Independent.*
<https://kyivindependent.com/german-drone-manufacturer-opened-factory-in-ukraine/>
148. Connolly, K. (2025, May 28). *Germany and Ukraine reach deal for long-range weapons production.* *The Guardian.*
<https://www.theguardian.com/world/2025/may/28/zelenskyy-merz-germany-ukraine-sumy>
149. Ministry of Defence of Ukraine. (2025, December 13). *Strengthening air defence and joint defence-industry projects: Sergiy Boyev visits Germany.*
<https://mod.gov.ua/en/news/strengthening-air-defence-and-joint-defence-industry-projects-sergiy-boyev-visits-germany>

150. Ministry of Defence of Ukraine. (2025, December 25). *Tactical reconnaissance and strike missions: Key facts about the Ukrainian Linza UAV to be co-produced with Germany*.
<https://mod.gov.ua/en/news/tactical-reconnaissance-and-strike-missions-key-facts-about-the-ukrainian-linza-uav-to-be-co-produced-with-germany>
151. Skyeton. (2025, June 26). *Skyeton Prevail Solutions: First new UK/Ukraine drone joint-venture*. <https://skyeton.com/news/skyeton-prevail-solutions/>
152. Ruitenbergh, R. (2025, September 11). *UK to produce Ukraine-designed interceptor drones, supply thousands*. Defense News.
<https://www.defensenews.com/global/europe/2025/09/11/uk-to-produce-ukraine-designed-interceptor-drones-supply-thousands/>
153. Ministry of Defence of Ukraine. (2025, October 11). *Ukraine and the United Kingdom strengthen their defence partnership*.
<https://mod.gov.ua/en/news/ukraine-and-the-united-kingdom-strengthen-their-defence-partnership>
154. Ministry of Defence of Ukraine. (2026, January 9). *Ukraine and the United Kingdom sign a roadmap for their one-hundred-year defence partnership*.
<https://mod.gov.ua/en/news/ukraine-and-the-united-kingdom-sign-a-roadmap-for-their-one-hundred-year-defence-partnership>
155. Office of the President of Ukraine. (2024, September 12). *Lithuania announced readiness to increase support for Ukraine's defense industry – Volodymyr Zelenskyy*.
<https://www.president.gov.ua/en/news/litva-zayavila-pro-gotovnist-zbilshiti-pidtrimku-ukrayinskog-93201>
156. Ministry of Defence of Ukraine. (2025, August 25). *Denys Shmyhal: Ukraine and Lithuania to jointly manufacture defence products*.
<https://mod.gov.ua/en/news/denys-shmyhal-ukraine-and-lithuania-to-jointly-manufacture-defence-products>

157. Ministry of Defence of Ukraine. (2025, November 21). *Maritime drones, radars and anti-personnel mines: Denys Shmyhal and Minister of National Defence of Lithuania discuss ways to enhance defence-industry cooperation.*

<https://mod.gov.ua/en/news/maritime-drones-radars-and-anti-personnel-mines-denys-shmyhal-and-minister-of-national-defence-of-lithuania-discuss-ways-to-enhance-defence-industry-cooperation>

158. *European Pravda*. (2024, November 28). *Finland to create joint drone production with Ukraine.* <https://www.eurointegration.com.ua/eng/news/2024/11/28/7199416/>

159. AIN.UA. (2024, November 28). *Finland to build drone manufacturing with Ukraine.* <https://en.ain.ua/2024/11/28/finland-to-build-drone-manufacturing-with-ukraine/>

160. *DutchNews*. (2024, October 7). *Dutch invest €400 million in drones for Ukrainian defence.* <https://www.dutchnews.nl/2024/10/dutch-invest-e400-million-in-drones-for-ukrainian-defence>

161. Office of the President of Ukraine. (2026, February 6). *Ukraine and the Netherlands will jointly produce drones – Volodymyr Zelenskyy.* <https://www.president.gov.ua/en/news/ukrayina-ta-niderlandi-spilno-viroblyatimut-droni-volodimir-100729>

162. Reuters. (2024, October 6). *Dutch defence minister pledges 400 mln euros for drone action plan with Ukraine.* <https://www.reuters.com/world/europe/dutch-defence-minister-pledges-400-mln-euros-drone-action-plan-with-ukraine-2024-10-06>

163. Ministry of Defence of Ukraine. (2026, February 6). *Ukraine and the Netherlands launch joint production of long-range drones under the "Build with Ukraine" initiative.* <https://mod.gov.ua/en/news/ukraine-and-the-netherlands-launch-joint-production-of-long-range-drones-under-the-build-with-ukraine-initiative>

164. Ministry of Defence of Ukraine. (2026, February 6). *On the sidelines of JEF, Denys Shmyhal discusses strengthening Ukraine's defence capabilities with defence ministers of Finland, the Netherlands, Estonia, and Denmark.*

<https://mod.gov.ua/en/news/on-the-sidelines-of-jef-denys-shmyhal-discusses-strengthening-ukraine-s-defence-capabilities-with-defence-ministers-of-finland-the-netherlands-estonia-and-denmark>

165. Ministry of Defence of Ukraine. (2025, February 10). *Ukraine's security agreements: What they entail and which countries have signed them — explained by the Ministry of Defence.* <https://mod.gov.ua/en/news/ukraine-s-security-agreements-what-they-entail-and-which-countries-have-signed-them-explained-by-the-ministry-of-defence>

166. Ministry of Defence of Ukraine. (2025, February 6). *Air defence, the "drone line," and F-16s: Ukraine and the Netherlands strengthen defence cooperation.*

<https://mod.gov.ua/en/news/air-defence-the-drone-line-and-f-16s-ukraine-and-the-netherlands-strengthen-defence-cooperation>

167. Ministry of Defence of Ukraine [@ministry_of_defense_ua]. (2026, February 8). *[Post about the mass production of the "Kurbas" thermal imaging system for drones].* Telegram. https://t.me/ministry_of_defense_ua/12999

168. Norwegian Ministry of Defence [@Forsvarsdep]. (2026, February 6). *[Post regarding the 2026 funding allocation under the Nansen Support Programme for Ukraine].* X (formerly Twitter). <https://x.com/Forsvarsdep/status/1937038574249013638>

169. Ministry of Defence of Ukraine. (2026, January 30). *Denys Shmyhal: Norway confirms plans to provide \$7 billion in military assistance to Ukraine in 2026.* <https://mod.gov.ua/en/news/denys-shmyhal-norway-to-allocate-7-billion-for-ukraine-next-year>

170. Ministry of Defence of Ukraine. (2026, February 6). *Ukraine's Defence Minister announces launch of joint Ukrainian-Dutch drone production.* <https://mod.gov.ua/en/news/ukraine-s-defence-minister-announces-launch-of-joint-ukrainian-dutch-drone-production>

171. Ministry of Defence of Ukraine. (2026, February 6). *Meeting of the Ministers of Defence of Ukraine and Latvia: Defense production, drone coalition, and training of Ukrainian military personnel.*
<https://mod.gov.ua/en/news/meeting-of-the-ministers-of-defence-of-ukraine-and-latvia-defense-production-drone-coalition-and-training-of-ukrainian-military-personnel>
172. Government Offices of Sweden. (2025, August 23). *Ukraine and Sweden pave way for joint production of defence materiel.* [Press release].
<https://government.se/press-releases/2025/08/ukraine-and-sweden-pave-way-for-joint-production-of-defence-materiel>
173. Cabanac, M. (2023, October 2). *Le drone Aarok bientôt en Ukraine : Turgis & Gaillard signe un accord avec Antonov* [The Aarok drone soon in Ukraine: Turgis & Gaillard signs an agreement with Antonov]. La Tribune.
<https://www.latribune.fr/entreprises-finance/industrie/aeronautique-defense/le-drone-aarok-bientot-en-ukraine-turgis-gaillard-signe-un-accord-avec-antonov-978294.html>
174. Militarnyi. (2024, March 14). *Drone production lines in exchange for combat experience: French automotive industry is coming to Ukraine.*
<https://militarnyi.com/en/news/drone-production-lines-in-exchange-for-combat-experience-french-automotive-industry-is-coming-to-ukraine/>
175. *The Odessa Journal*. (2025, October 3). *Ukraine and France launch new joint defense projects to boost air and missile capabilities.*
<https://odessa-journal.com/ukraine-and-france-launch-new-joint-defense-projects-to-boost-air-and-missile-capabilities>
176. Zelenskyy, V. [@ZelenskyyUa]. (2026, February 9). [Post regarding the results of the JEF meeting and new defense-industrial agreements with the UK and the Netherlands]. X (formerly Twitter). <https://x.com/ZelenskyyUa/status/1990387415291208164>
177. Office of the President of Ukraine. (2024, June 21). *Memorandum between Ukraine and the American company Swift Systems signed in Washington.*
<https://www.president.gov.ua/en/news/memorandum-mizh-ukrayinoyu-ta-amerikanskoyu-kompaniyeyu-swif-98817>

178. Emerson, S. (2024, June 6). *Eric Schmidt is secretly testing AI military drones in a wealthy Silicon Valley suburb*. Forbes.

<https://www.forbes.com/sites/sarahemerson/2024/06/06/eric-schmidt-is-secretly-testing-ai-military-drones-in-a-wealthy-silicon-valley-suburb/>

179. Auterion. (2025, May 22). *Auterion successfully completes Artemis program to deliver long-range deep-strike drone*.

<https://auterion.com/auterion-successfully-completes-artemis-program-to-deliver-long-range-deep-strike-drone/>

180. Ministry of Defence of Ukraine. (2026, February 6). *Ukraine and the United States examine cooperation opportunities in unmanned systems*.

<https://mod.gov.ua/en/news/ukraine-and-the-united-states-examine-cooperation-opportunities-in-unmanned-systems>

Safronova, O., & Kudrytski, A. (2026, March 20). *Ukraine will raise drone deal offer in US talks, Zelenskiy says*. Bloomberg.

<https://www.bloomberg.com/news/articles/2026-03-20/ukraine-will-raise-drone-deal-offer-in-us-talks-zelenskiy-says>

181. Ministry of Defence of Ukraine. (2026, February 7). *Ukrainian MoD technical delegation discusses drone acquisition and joint production agreement with the United States*. <https://mod.gov.ua/en/news/ukrainian-mo-d-technical-delegation-discusses-drone-acquisition-and-joint-production-agreement-with-the-united-states>

182. Mezha. (2026, February 8). *Ukroboronprom and Czech Air Team to jointly produce interceptor drones*.

<https://oboronka.mezha.ua/en/ukroboronprom-droni-perehoplyuvachi-cheska-air-team-306386/>

183. Euromaidan Press. (2024, September 3). *Ukrainian drone maker Ukspecsystems expands internationally with Polish representation deal*.

<https://euromaidanpress.com/2024/09/03/ukrainian-drone-maker-ukrspecsystems-expands-internationally-with-polish-representation-deal/>

184. Bots and Drones. (2024). *Poland to manufacture Ukrspecsystems drones under license*. <https://botsanddrones.uk/best-commercial-drones-1/f/poland-to-manufacture-ukrspecsystems-drones-under-license>
185. Frag Out! Magazine. (2024, September 6). *Grupa WB: FlyEye produkowane w Ukrainie* [WB Group: FlyEye produced in Ukraine]. <https://fragoutmag.com/pl/grupa-wb-flyeye-produkowane-w-ukrainie/>
186. Militarnyi. (2024, October 28). *Poland's Unimot Group invests \$110,000 in joint drone production with Ukraine*. <https://militarnyi.com/en/news/poland-s-unimot-group-invests-110-000-in-joint-drone-production-with-ukraine/>
187. European Pravda. (2025, July 18). *Media: Romania begins talks with Ukraine on joint drone production*. <https://www.eurointegration.com.ua/eng/news/2025/07/18/7216189/>
188. The Kyiv Independent. (2026, February 7). *Romania to develop joint drone production with Ukraine to protect NATO's eastern flank, Romanian FM says*. <https://kyivindependent.com/romania-to-develop-joint-drone-production-with-ukraine-to-protect-natos-eastern-flank-romanian-fm-says/>
189. Black Sea Shield. (2025, September 12). *Turkey and Ukraine team up for groundbreaking new defense sector drone joint venture*. <https://blackseashield.com/en/news/turkey-and-ukraine-team-up-for-groundbreaking-new-defense-sector-drone-joint-venture>
190. Baykar. (2024, February 7). *Turkey's drone maker Baykar begins to build plant in Ukraine*. <https://baykartech.com/en/press/turkeys-drone-maker-baykar-begins-to-build-plant-in-ukraine>
191. Bekdil, B. E. (2023, October 10). *Turkey's Baykar to spend \$100 million on Ukraine production plant*. Defense News. <https://www.defensenews.com/global/europe/2023/10/10/turkeys-baykar-to-spend-100-million-on-ukraine-production-plant/>

192. The New Voice of Ukraine. (2025, October 9). *Baykar's Kyiv plant to open after repairs*.
<https://english.nv.ua/nation/baykar-s-kyiv-plant-to-open-after-repairs-50551462.html>
193. Defense Express. (2025, May 20). *Ukraine to support drone factory in the Baltics capable of producing hundreds of thousands of UAVs annually*.
https://en.defence-ua.com/industries/ukraine_to_support_drone_factory_in_the_baltics_capable_of_producing_hundreds_of_thousands_of_uavs_annually-14571.html
194. Shmyhal, D. (2024, July 10). *[Meeting with American business leaders and signing a memorandum on drone production in Ukraine]*. Facebook.
<https://www.facebook.com/dshmyhal/posts/pfbid0kbBJ6MQWaL7dPkBqiJGjx1unCRoPAoP6mcAotjD7CEVr3dMbgTwQGszUBBG3t8wWl>
195. United24 Media. (2024, July 12). *Canada and Ukraine strike defense deal to co-produce drones and counter-drone tech*.
<https://united24media.com/latest-news/canada-and-ukraine-strike-defense-deal-to-co-produce-drones-and-counter-drone-tech-11040>
196. Ministry of Defence of Ukraine. (2026, February 6). *Anna Gvozdiar and Sergiy Boyev discuss strengthening defence industry cooperation with Belgian delegation*.
<https://mod.gov.ua/en/news/anna-gvozdiar-and-sergiy-boyev-discuss-strengthening-defence-industry-cooperation-with-belgian-delegation>
197. Zelenskyy, V. [@V_Zelenskiy_official]. (2026, February 9). *[Message regarding the results of the JEF meeting and defense-industrial cooperation]* [Telegram post]. Telegram. https://t.me/V_Zelenskiy_official/17376
198. Ministry of Defence of Ukraine. (2026, February 6). *Denys Shmyhal: Ukraine obtains enhanced partnership status with the Joint Expeditionary Force (JEF)*.
<https://mod.gov.ua/en/news/denys-shmyhal-ukraine-obtains-enhanced-partnership-status-with-the-joint-expeditionary-force-jef>
199. Joint Expeditionary Force. (n.d.). *About the JEF*. <https://jefnations.org/about-the-jef/>

200. Federal Communications Commission. (2025, December 22). *Fact sheet: FCC updates Covered List to include foreign UAS and UAS critical components on going forward basis*. <https://docs.fcc.gov/public/attachments/DOC-416839A1.pdf>
201. U.S. Department of War. (2026, February 3). *War Department announces vendors invited to compete in Phase I of the Drone Dominance Program*. <https://www.war.gov/News/Releases/Release/Article/4396462/war-department-announces-vendors-invited-to-compete-in-phase-i-of-the-drone-dom/>
202. DSET interview with K
203. DSET interview with L
204. Bondar, K. (2025, March 6). *Ukraine's future vision and current capabilities for waging AI-enabled autonomous warfare*. Center for Strategic and International Studies. <https://www.csis.org/analysis/ukraines-future-vision-and-current-capabilities-waging-ai-enabled-autonomous-warfare>
205. *Kyiv Post*. (2025, February 10). *Ukraine drone production tops 2.5 million a year*. <https://www.kyivpost.com/post/46892>
206. Miller, K. (2024, October 16). *The Future of Drones in Ukraine II: A report from the NATO-Ukraine Defense Innovators Forum*. Center for Security and Emerging Technology. <https://cset.georgetown.edu/article/the-future-of-drones-in-ukraine-ii-a-report-from-the-nato-ukraine-defense-innovators-forum/>
207. Vialko, D. (2025, November 26). *Zelenskyy orders boost to Ukraine's short- and mid-range air defenses*. RBC-Ukraine. <https://newsukraine.rbc.ua/news/zelenskyy-orders-boost-to-ukraine-s-short-1764186560.html>
208. BBC Russian. (2025, January 8). *Over 80 drone attacks on Russian refineries and oil depots this year: how is this affecting gasoline prices? [Более 80 атак дронов на российские НПЗ и нефтебазы за год: как это влияет на цены на бензин?]*. BBC. <https://www.bbc.com/russian/articles/cwyd0kvvpr8o>

209. Atlantic Council. (2025, October 16). *Ukraine's drone sanctions are working but don't expect a Russian revolt*. Atlantic Council.
<https://www.atlanticcouncil.org/blogs/ukrainealert/ukraines-drone-sanctions-are-working-but-dont-expect-a-russian-revolt/>
210. Caspian Policy Center. (2025, March 18). *Live map of Russian refineries hit: Ukrainian drone strikes boost Caspian energy*.
<https://www.caspianpolicy.org/research/security/live-map-of-russian-refineries-hit-ukrainian-drone-strikes-boost-caspian-energy>
211. Bloomberg News. (2025, December 1). *Ukraine ramps up strikes on Russian oil and targets energy assets*. Bloomberg.
<https://www.bloomberg.com/news/articles/2025-12-01/ukraine-carries-out-record-attacks-on-russia-oil-infrastructure>
212. UATV. (2025, November 4). *Nearly 160 Russian oil facilities struck in 2025, SSU chief says*. UATV.
<https://uatv.ua/en/nearly-160-russian-oil-facilities-struck-in-2025-ssu-chief-says/>
213. Vialko, D. (2025, October 11). *Sanctions and Russia's profits: Ukrainian intelligence reveals impact*. RBC-Ukraine.
<https://newsukraine.rbc.ua/news/sanctions-and-russia-s-profits-ukrainian-1762960066.html>
214. Mittal, V. (2025, August 4). *The Liutyi drone: Ukraine's response to Russia's Shaheds*. Forbes.
<https://www.forbes.com/sites/vikrammittal/2025/08/04/the-liutyi-drone-ukraines-response-to-russias-shaheds/>
215. Dmytriieva, D. (2025, November 3). *Russia no longer safe: Ukrainian drones changed geography of war*. RBC-Ukraine.
<https://newsukraine.rbc.ua/news/russia-no-longer-safe-ukrainian-drones-changed-1762173615.html>

216. Khomenko, I. (2025, November 22). *Revealed: Full list of Russian sites hit by Ukraine's FP-1 and FP-5 in 2025 deep strikes*. UNITED24 Media.
<https://united24media.com/latest-news/revealed-full-list-of-russian-sites-hit-by-ukraines-fp-1-and-fp-5-in-2025-deep-strikes-13680>
217. Vialko, D. (2025, November 11). *New strikes deep inside Russia and Pokrovsk: Zelenskyy holds briefing with Commander-in-Chief*. RBC-Ukraine.
<https://newsukraine.rbc.ua/news/new-strikes-deep-inside-russia-and-pokrovsk-1762880387.html>
218. DSET Interview with U
219. Ministry of Defence of Ukraine. (2025, August 8). *Expansion of "Contract 18-24" for unmanned systems operators: Key features of the new contract*.
<https://mod.gov.ua/en/news/expansion-of-contract-18-24-for-unmanned-systems-operators-key-features-of-the-new-contract>
220. Unmanned Systems Forces of the Armed Forces of Ukraine. (n.d.). *Unmanned Systems Forces official website*. Retrieved February 9, 2026, from
<https://usforces.army/en/>
221. Ministry of Defence of Ukraine. (2025, November 5). *Army+ launches training course on fiber-optic-controlled drones*.
<https://mod.gov.ua/en/news/army-launches-training-course-on-fiber-optic-controlled-drones>
222. Zelenskyy, V. [@ZelenskyyUa]. (2026, February 8). *[Message regarding the grant of national status to the Kyiv Aviation Institute and the role of Ukrainian technologies in European security]* [Tweet]. X. <https://x.com/ZelenskyyUa/status/1985048624229757091>
223. KSE Institute. (2025, November 25). *From the battlefield to the future of warfare: Harnessing Ukraine's drone innovations to advance U.S. military capabilities*. Kyiv School of Economics.
<https://kse.ua/about-the-school/news/from-the-battlefield-to-the-future-of-warfare-harnessing-ukraine-s-drone-innovations-to-advance-u-s-military-capabilities-kse-institute-report/>

224. Ministry of Defence of the Republic of Latvia. (n.d.). *Drone coalition*.
<https://www.mod.gov.lv/en/drone-coalition-0>
225. Vialko, D. (2025, June 18). *Germany to provide Ukraine with €5 billion in military aid in 2025*. RBC-Ukraine.
<https://newsukraine.rbc.ua/news/germany-to-provide-ukraine-with-5-billion-1748533497.html>
226. Ministry of Defence of Ukraine. (2025, March 10). *Glib Kanievskyi: In 2025, the Ministry of Defence plans to procure 4.5 million FPV drones*.
<https://mod.gov.ua/en/news/glib-kanievskyi-in-2025-the-ministry-of-defence-plans-to-procure-4-5-million-fpv-drones>
227. Balmforth, T. (2025, November 17). *These are the long-range weapons Ukraine is using to strike deep inside Russia*. The Independent.
<https://www.independent.co.uk/news/world/europe/ukraine-russia-oil-drone-weapons-novorossiysk-b2866606.html>
228. Ministry of Defence of Ukraine. (2025, November 21). *Ukraine's defense needs and MoD reforms: Denys Shmyhal meets with the ambassadors of G7 countries*.
<https://mod.gov.ua/en/news/ukraine-s-defense-needs-and-mo-d-reforms-denys-shmyhal-meets-with-the-ambassadors-of-g7-countries>
229. United24 Media. (2025, May 12). *Ukraine's new Bars missile-drone can hit targets 500 miles inside Russia*.
<https://united24media.com/latest-news/ukraines-new-bars-missile-drone-can-hit-targets-500-miles-inside-russia-7645>
230. BBC News Україна. (2025, April 16). *"Bars" missile-drone: What is known about the new Ukrainian development and its main advantage* [Ракета "Барс": що відомо про нову українську розробку і чому її головна перевага]. BBC News Україна.
<https://www.bbc.com/ukrainian/articles/cn8v5qq3xe0o>

231. Khomenko, I. (2024, November 25). *Ukrainian AN-196 Liutyi drone, dubbed 'Ukrainian Shahed,' receives major upgrade*. UNITED24 Media. Updated July 3, 2025. <https://united24media.com/latest-news/ukrainian-an-196-liutyi-drone-dubbed-ukrainian-shahed-receives-major-upgrade-3996>
232. Мірошніченко, Б. (2025, May 6). *Ministry of Strategic Industries showed the long-range FP-1 drone that flies up to 1600 km* [Мінстратегпром показав далекобійний безпілотник FP-1, який летить до 1600 км]. Межа. <https://oboronka.mezha.ua/minstrategprom-pokazav-noviy-dalekobiyniy-bezpilotnik-fp-1-yakiy-letit-do-1600-km-301729/>
233. Murdoch, B. (2025, September 2). *Ukraine unveils upgraded "Palianytsia" drone that can reach targets 650 km into Russia*. Euromaidan Press. <https://euromaidanpress.com/2025/09/02/ukraine-unveils-upgraded-palianytsia-drone-that-can-reach-targets-650-km-into-russia/>
234. Defense Express. (2025, May 17). *Ukraine's Ruta missile drone will get an EW-immune navigation system*. Defence Express. https://en.defence-ua.com/weapon_and_tech/ukraines_ruta_missile_drone_will_get_an_ew_immune_navigation_system-14541.html
235. Khomenko, I., & Frolova, T. (2025, November 1). *Ukraine's new Ruta missile outsmarts GPS jamming with Spanish tech*. UNITED24 Media. <https://united24media.com/latest-news/ukraines-new-ruta-missile-outsmarts-gps-jamming-with-spanish-tech-13029>
236. Militaryni. (2024, December 6). *Armed Forces of Ukraine receive Peklo long-range missile-drones*. Militaryni. <https://militaryni.com/en/news/armed-forces-of-ukraine-receive-peklo-long-range-missile-drones/>
237. Hambling, D. (2023, December 17). *Scythe attack drone is Ukraine's answer to Russia's Shaheds*. Forbes. <https://www.forbes.com/sites/davidhambling/2023/12/17/scythe-attack-drone-is-ukraines-answer-to-russias-shaheds/>

238. Sudolsky, R. (2025, August 14). *Wild Hornets' Sting interceptor reaches 315 km/h, shoots down over 200 Shaheds and Gerberas*. TheDefender.media.
<https://thedefender.media/en/2025/08/dyki-shershni-showcased-sting-315-km-god/>
239. Dignitas Fund. (2025, December 11). *Ukrainian interceptor drone: Everything about anti-UAV technologies*. Dignitas Fund.
<https://dignitas.fund/blog/everything-about-anti-uav-technologies/>
240. Gubina, E. (2026, January 5). *Ukraine has created a new interceptor drone that accelerates to 236 km/h*. Oboronka.
<https://oboronka.mezha.ua/en/dron-perehoplyuvach-yakiy-rozganyayetsya-do-236-km-god-307478/>
241. Mykhailenko, D. (2025, June 3). *Ukraine launches DroneHunter: Affordable kinetic interceptor against Russian drones*. UNITED24 Media.
<https://united24media.com/latest-news/ukraine-launches-dronehunter-affordable-kinetic-interceptor-against-russian-drones-8843/>
242. Danishevskaya, K. (2025, September 11). *Ukraine must produce 400,000 drones monthly to compete with Russia – Shmyhal*. RBC-Ukraine.
<https://newsukraine.rbc.ua/news/ukraine-must-produce-400-000-drones-monthly-1757597170.html>
243. Marrow, M. (2025, November 20). *Ukrainian drone-maker Skyfall shows off tech at Dubai Airshow, eyes US, NATO market*. Breaking Defense.
<https://breakingdefense.com/2025/11/ukrainian-drone-maker-skyfall-shows-off-tech-at-dubai-airshow-eyes-us-nato-market/>
244. Aero3D. (n.d.). Aero3D — *Transferring the real world to the virtual*.
<https://aero3d.ua/en/>
245. Frontline Robotics. (n.d.). *Frontline Robotics — robots that will change the course of the war*. <https://www.frontline-robotics.tech/en/>

246. WSJ Equipped. (2025, October 2). *Ukraine's new FP-5 missile has twice the range of a Tomahawk* [Video]. YouTube. <https://www.youtube.com/watch?v=bJlYsX8XEg>
247. Bernacchi, G. (2025, November 20). *Kyiv releases footage of Ukrainian 'Long Neptune' missiles striking Russian targets*. *The Defense Post*.
<https://thedefensepost.com/2025/11/20/ukrain-long-neptune-missiles-russian/>
248. Staff Writer. (2025, June 13). *Top 100 drone defense companies in 2025*. *The Defense Post*.
<https://thedefensepost.com/2025/06/13/drone-companies-ranking-2025/>
249. Aero3D. (n.d.). *FPV дрони для Збройних сил України* [FPV drones for the Armed Forces of Ukraine]. Aero3D.
<https://www.aero3d.ua/en/fpv-drony-dlia-zbrojnykh-syl-ukrainy/>
250. Shoaib, A. (2023, September 16). *Here's the experimental sea drone, called the 'Sea Baby,' that Ukraine claims has carried almost 1,900 pounds of explosives and has been attacking Russia's Black Sea Fleet*. *Business Insider*.
<https://www.businessinsider.com/sea-baby-ukraine-experimental-sea-drone-russia-black-sea-fleet-2023-10>
251. Kushnikov, V. (2023, July 26). *MAGURA V5 marine drone developed in Ukraine*. *Militaryni*.
<https://militaryni.com/en/news/magura-v5-marine-drone-developed-in-ukraine/>
252. Wertheim, E. (2025, September). *Ukraine's Magura naval drones: Black Sea equalizers*. *Proceedings: U.S. Naval Institute*, 151(9).
<https://www.usni.org/magazines/proceedings/2025/september/ukraines-magura-naval-drones-black-sea-equalizers>
253. Swarmer. (2025). *Innovative UAV autonomy solutions* | Swarmer.
<https://www.getswarmer.com/>
254. Mantis Analytics. (n.d.). *Mantis Analytics — AI-driven real-time situational awareness and risk intelligence*. <https://mantisanalytics.com/>

255. Kvertus. (n.d.). *Products — Kvertus: Customized solutions for electronic warfare and counter-drone systems*. <https://kvertus.ua/en/products/>
256. Kuzmenko, O. (2025, September 26). *Ukrainian "Babai" created a drone detector "PES Sirko". What are its capabilities*. dev.ua.
<https://dev.ua/en/news/babai-prykhodyt-po-drony-1758863358/>
257. State Statistics Service of Ukraine. (n.d.). *State Statistics Service of Ukraine*.
<https://stat.gov.ua/en/>
258. Eurostat. (n.d.). Eurostat — *European statistics*. European Commission.
<https://ec.europa.eu/eurostat;>
- Taiwan's bid to export drones free of Chinese parts is taking off. (2026, March 12). The Economist.
<https://www.economist.com/asia/2026/03/12/taiwans-bid-to-export-drones-free-of-chinese-parts-is-taking-off>
259. Iron Cluster. (2025, October 1). *We launched Iron Global just in August...* [LinkedIn post]. LinkedIn.
https://www.linkedin.com/posts/iron-cluster_we-launched-iron-global-just-in-august-activity-7393999681741164545-3Qri/
260. Ministry of Defence of Ukraine. (2025, October 15). *Ukraine and Northern European countries launch the Nordic–Baltic Initiative to train and equip Ukrainian service members*. <https://mod.gov.ua/en/news/ukraine-and-northern-european-countries-launch-the-nordic-baltic-initiative-to-train-and-equip-ukrainian-service-members>
261. Ministry of Defence & The Rt Hon John Healey MP. (2025, November 5). *Joint Expeditionary Force launches enhanced partnership with Ukraine as allies step up further*. GOV.UK.
<https://www.gov.uk/government/news/joint-expeditionary-force-launches-enhanced-partnership-with-ukraine-as-allies-step-up-further>

262. Ministry of Defence of Ukraine. (2026, January 3). *The Ministry of Defence secured over \$6 billion for Ukraine's defense industry in 2025.*

<https://mod.gov.ua/en/news/the-ministry-of-defence-secured-over-6-billion-for-ukraine-s-defense-industry-in-2025>

263. Ministry of Defence of Latvia. (2025, January 14). *Latvian-UK led Drone Coalition to deliver 30 000 drones to Ukraine, 12 000 which are Latvian-made.*

<https://www.mod.gov.lv/en/news/latvian-uk-led-drone-coalition-deliver-30-000-drones-ukraine-12-000-which-are-latvian-made>

264. Ministère des Armées. (2024, March 4). *French military equipment delivered to Ukraine.*

<https://www.defense.gouv.fr/en/news/french-military-equipment-delivered-ukraine>

265. Baykar Technology. (2022, July 23). *Fundraising campaigns for purchase of Türkiye's Bayraktar TB2 drone spreading in West.*

<https://www.baykartech.com/en/press/fundraising-campaigns-for-purchase-of-turkiyes-bayraktar-tb2-drone-spreading-in-west/>

266. Defense Express. (2022, November 26). *Luxembourg delivered Czech-made Primoco One drones to Ukraine – media.* Defence UA.

https://en.defence-ua.com/weapon_and_tech/luxembourg_delivered_czech_made_primoco_one_drones_to_ukraine_media-4957.html

267. FPS Foreign Affairs, Foreign Trade and Development Cooperation. (2024, May 23). *Belgian support for Ukraine.*

<https://diplomatie.belgium.be/en/policy/policy-areas/highlighted/belgian-support-ukraine>

268. CzechTrade Offices. (2025, December 18). *Czech support for Ukraine totals CZK 91.3 billion.*

<https://www.czechtradeoffices.com/eg/news/czech-support-for-ukraine-totals-czk-91-3-billion/>

269. NATO. (2025, December 10). *NATO Allies and partners fund over 4 billion in PURL packages for Ukraine.*

<https://www.nato.int/en/news-and-events/articles/news/2025/12/10/nato-allies-and-partners-fund-over-4-billion-in-purl-packages-for-ukraine>

270. European Commission. (n.d.). *SAFE | Security Action for Europe*.
https://defence-industry-space.ec.europa.eu/eu-defence-industry/safe-security-action-europe_en
271. Ministry of Defence of Denmark. (2025, November 14). *Denmark completes deliveries to Ukraine under the second instalment of windfall profits from immobilized Russian assets on behalf of the European Union*.
<https://www.fmn.dk/en/news/2025/denmark-completes-deliveries-to-ukraine-under-the-second-instalment-of-windfall-profits-from-immobilized-russian-assets-on-behalf-of-the-european-union/>
272. Iron Cluster. (n.d.). *Iron Cluster — advancing defence-industrial cooperation*.
<https://ironcluster.org/eng-home>
273. U.S. Army Europe and Africa. (2024, August 5). *Press release: Security Assistance Group – Ukraine change of command*.
<https://www.europeafrica.army.mil/ArticleViewPressRelease/Article/3861171/press-release-security-assistance-group-ukraine-change-of-command/>
274. Smyhal, D. (2025, January 15). *[Telegram post about Ukraine's defence / policy]* [Post]. Telegram. https://t.me/Denys_Smyhal/11891
275. Ministry of Defence & The Rt Hon Sir Keir Starmer KCB KC MP & The Rt Hon John Healey MP. (2025, September 10). *Groundbreaking Ukraine tech sharing agreement to deliver drones and support jobs*. GOV.UK.
<https://www.gov.uk/government/news/groundbreaking-ukraine-tech-sharing-agreement-to-deliver-drones-and-support-jobs>
276. Sztab Generalny WP [@SztabGenWP]. (2023, December 29). *[Tweet about military or defence-related content]* [X post].
<https://x.com/SztabGenWP/status/1998467600280367473?s=20>
277. DSET interview with N
278. DSET interview with O

279. DSET interview with P
280. DSET interview with M
281. DSET interview with AD
282. DSET interview with X
283. Chiu, L. (2025, September 3). *Ukraine upgrades 'Palianytsia' drone missile – now with 650 km range*. *Kyiv Post*. <https://www.kyivpost.com/post/59380>
284. Anduril Corp. (2025, September 12). *Anduril unveils Roadrunner & Roadrunner-M* [Video]. YouTube. <https://www.youtube.com/watch?v=aI9ITeP4fUA>
285. Hambling, D. (2025, November 3). *Mavic vs Shmavic: Ukraine takes on the world's leading drone maker*. *Forbes*.
<https://www.forbes.com/sites/davidhambling/2025/11/03/mavic-vs-shmavic-ukraine-takes-on-the-worlds-leading-drone-maker/?ss=aerospace-defense>
286. Central News Agency. (2026, January 23). *Taiwan will not aid aggressors, President Lai says after Zelensky remarks*. *Focus Taiwan*.
<https://focustaiwan.tw/politics/202601230013>
287. DSET interview with I
288. DSET interview with S
289. DSET interview with W
290. DSET interview with E

Drone Superpower

**Ukraine's UAV Success and Where
Taiwan-Ukraine Cooperation Fits In**

