Components of Freedom



A Localization Roadmap

IRON

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IRON is a defense technology cluster that brings together 90+ companies from Ukraine and 15+ international companies. It serves as a platform for effective cooperation among manufacturers, the military, investors, government bodies, and foreign partners. IRON enables Ukrainian technologies to move rapidly from concept to frontline testing and serial production. IRON's core missions include advocating for manufacturers' needs, supporting the scaling of the most effective solutions, attracting investment, launching joint production initiatives, and integrating Ukrainian technologies into global defense supply chains.

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The full-scale war has become a catalyst for unprecedented growth of Ukraine's defense-industrial complex. What began in 2022 with several dozen unmanned systems manufacturers has evolved into 900+ companies delivering hundreds of thousands of systems to the front line every month.
The growth of the defense industry has triggered a chain reaction of increased demand for components for unmanned systems, electronic warfare assets, and other weapons. Against this backdrop, localization goes far beyond industrial policy. It is a strategic imperative to ensure supply chain resilience, reduce geopolitical dependence, and build technological sovereignty, while also delivering economic benefits for Ukraine, foremost job creation and increased state budget revenues.

Over the past two years, the IRON cluster has systematically stimulated localization through practical and institutional mechanisms. We support cooperation between component manufacturers and producers of final systems, test Ukrainian-made parts together with cluster members, help identify local substitutes for imported assemblies, and organize targeted exhibitions for component manufacturers. Today, 76% of weapons manufacturers within IRON use components produced by other cluster members. Overall, 95% of our members already use Ukrainian components in their products and plan to increase the share of such parts by the end of 2026.

Manufacturers of virtually all components for unmanned systems already operate in Ukraine, yet their market share remains low due to limited access to capital, an unfavorable regulatory environment, and the difficulty of scaling production under wartime conditions. In addition, a clear trend is emerging: as component manufacturing becomes more complex and knowledge-intensive, the share of Ukrainian products in this segment declines.

This is precisely why the objective of this study is to identify critical regulatory barriers in the component market and to develop realistic support models for Ukrainian manufacturers. The study serves as a starting point for implementing a coordinated action plan to strengthen domestic component producers. Achieving these goals requires both state support and active cooperation between component manufacturers and producers of final systems. Implementing the measures proposed in this study will enable a transition from an import-dependent defense market to a competitive and technologically independent defense industry.

Catarina Buchatskiy,

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Discussions about Ukraine's drone industry often focus on outputs: monthly production volumes, iteration speed, or the diversity of platforms reaching the front line. Behind these figures lies something far less visible, yet decisive — component supply chains that make these numbers possible.

Readers of this report are already well aware that most critical components still pass through China in one way or another. In fact, it is no secret that the global drone market as a whole depends on China, and Ukraine's defense industry is no exception. At the same time, this sector gives Ukraine one of its strongest levers of influence. However, it becomes a truly strategic asset only when the entire production and logistics chain is under Ukraine's control. This is not merely about assembling finished products, but about having a genuinely deep domestic manufacturing base.

There is another aspect that is rarely mentioned: Ukrainian military R&D teams also require this depth. Workshops across units of the Armed Forces of Ukraine (AFU) continuously refine systems, replace VTX modules, test alternative controllers, and adapt weekly to Russian electronic warfare. A stable, diversified supply chain protects our forces from the risk of running out of components mid-iteration, ensures that no other country holds all the cards on the battlefield, and provides access to a broader range of solutions and manufacturers working to their requirements.

Securing the component base is the next strategic step for Ukraine's defense industry. The fact that Ukraine has reached a stage where it can speak about full-cycle production—not ambitiously, but practically—says a great deal about the maturity of this ecosystem. This is decisive for what comes next: the formation of a military-industrial complex capable of continuously introducing new solutions, maintaining resilience during periods of crisis, and scaling regardless of decisions made by foreign suppliers.

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Executive Summary

Localization of the production of unmanned systems and electronic warfare (EW) assets is critical to the development of Ukraine's national defense industry. It reduces dependence on unstable foreign supplies, increases flexibility in adapting technologies to frontline needs, generates economic benefits, and unlocks significant export potential—positioning Ukraine as a reliable producer of strategically important technologies. At the same time, success in manufacturing these systems directly depends on the development of the component market.

Today, this market is highly uneven. Some components are widely used across most systems, while others cover only a small share of demand or are entirely absent. Across all segments, a common trend is evident: component manufacturers have the potential to scale, but do not receive sufficient orders from final system producers, who often prefer imported components. As a result, it is necessary to support the development of domestic component manufacturers by removing regulatory barriers that favor imports and by providing financial support to enable scaling and reduce production costs.

The state has already introduced a number of localization support instruments, but they have clear limitations:

- **Financial support:** Grant programs such as Brave1 and Made for Victory are effective at the early stages of production. Lending remains extremely limited due to the lack of insurance mechanisms, banks' unwillingness to assume risk, and the absence of criticality status for component manufacturers required to access state subsidized lending.
- **Tax conditions:** Diia City and Defence City offer favorable regimes for payroll taxation, working capital, and profit reinvestment. However, tax and customs benefits that favor imported components create an additional burden and increase production costs for domestic manufacturers.
- **Criticality status:** The absence of state contracts restricts component manufacturers' access to the status of the critical defense-industrial complex (DIC) enterprise, complicating access to subsidized financing and workforce reservation.
- **Localization incentives in public procurement:** Initial steps have been taken in this direction (the Weapons of Victory resolution, draft law No. 13392), but a systematic mechanism is still lacking.

To address these challenges and develop the component market, the following measures are proposed:

- Establish a dedicated grant program for strategically critical components; expand state-subsidized lending by adding risk insurance and extending eligibility to component manufacturers; attract foreign capital.
- Ensure equal conditions for Ukrainian and imported components through amendments to tax and customs legislation.
- Grant criticality status to component manufacturers whose products are actually used by the Armed Forces, even in the absence of state contracts.
- Stimulate localization in public procurement by providing preferences directly to final system manufacturers that use Ukrainian-made components.

Our proposals go beyond identifying priorities. They are complemented by detailed descriptions of implementation mechanisms, assessments of the expected impact on market development and production localization, and analyses of potential obstacles and risks during implementation.

Methodology

During the first stage, a desk study of the Ukrainian market for components for unmanned systems and electronic warfare assets was conducted to assess the current level of localization. Existing state support programs for manufacturers of these systems and their impact on production localization in Ukraine were analyzed. These preliminary findings formed the basis for the design of semi-structured expert interviews conducted in October–November 2025.

When forming the sample, respondents were selected to ensure representation of the main component groups. A standardized set of questions was applied, enabling comparative assessment of localization levels, identification of challenges in localizing production, and collection of proposals for policy changes and support instruments. All respondents provided informed consent to participate in the interviews, and their personal data were anonymized. In total, 21 respondents took part in the study, including:

- 10 representatives of manufacturers of components for unmanned systems
- 3 representatives of manufacturers of final unmanned systems
- 3 representatives of manufacturers of EW components and systems
- 5 representatives of military workhouses.[1]

The interviews were analyzed using content analysis, and their results were used to verify, elaborate, and partially adjust the conclusions of the desk research phase.

This study has several limitations. First, Ukraine's defense-industrial complex is currently dominated by production related to unmanned aerial vehicles and their components, while the number of manufacturers of EW components, as well as other types of drones, is smaller. As a result, the collected data are biased toward the segment of unmanned aerial systems and their components compared to other system categories.

A separate methodological element involved quantitative estimates of Ukrainian component production volumes, presented in Figure 1 and referenced repeatedly throughout the report. These estimates were based on manufacturers' self-reporting of their production volumes and their own assessments of the structure and scale of the Ukrainian market. Accordingly, they may contain inaccuracies stemming both from incomplete data and from differences in how manufacturers interpret market segments.

The section analyzing tax and customs regulations was prepared in cooperation with the Business Ombudsman Council of Ukraine. This institution has deep expertise in tax policy and has previously examined tax constraints affecting component manufacturers in its thematic investigation Tax Incentives: How Can Ukrainians Preserve Their Defence-Industrial Complex Market?[2] Leveraging this expertise contributed to a more accurate depiction of regulatory barriers and their practical application.

1. The number of respondents by category exceeds 20 because one of the surveyed enterprises is engaged in both component and final product manufacturing, and is therefore counted in both categories.
2. Business Ombudsman Council. Tax Incentives: How Can Ukrainians Preserve Their Defence-Industrial Complex Market? March 26, 2025. https://boi.org.ua/en/reports-post/tax-incentives-how-can-ukrainians-preserve-their-defence-industial-complex-market/.

Introduction

Over nearly four years of full-scale war, Ukraine's defense sector has undergone rapid transformation. Unmanned systems (aerial, maritime, and ground-based) and electronic warfare capabilities have played a decisive role in these changes, significantly reshaping the logic of modern combat operations.

It has become clear that industrial capacity and the ability to produce systems at scale are a critical component of the war effort. Ukraine is now capable of serial and mass production of unmanned systems. FPV drone output has increased from several thousand units in 2022 to more than 200,000 units per month in 2025.[3] The strategic objective is to reach 400,000 units per month.[4] Manufacturers already have the capacity to produce more, subject to an expansion of orders, with total potential output of up to 10 million drones per year.[5] In parallel, a diversified ecosystem of manufacturers has emerged, covering a wide range of systems—from strike and reconnaissance aerial platforms to ground and maritime systems.

Despite this progress, most production remains critically dependent on imported components. The next strategically important step is not merely the assembly of finished systems, but the full localization of production of key components for unmanned systems and EW assets. This process is already gradually underway: companies specializing in the production of individual components are emerging on the market. However, the majority of Ukrainian systems are still assembled primarily from imported parts.

Localization matters for several reasons:

- **Security and supply reliability.** The greatest dependency of Ukrainian final products is on Chinese components. As recent years have shown, China can restrict or complicate exports of such goods. This is compounded by a geopolitical dimension—China is not an ally of Ukraine and systematically supports Russia's military-industrial complex.
- **Advantages for the end user—the Armed Forces.** Ukrainian manufacturers are able to adapt components to current frontline needs, rapidly introduce design changes, and respond quickly to quality issues in specific batches. Imported components do not offer this level of flexibility.
- **Economic impact.** Localization creates added value, improves cash flow within the national economy, increases tax revenues, and generates new jobs.
- **Technological development.** Component manufacturing stimulates the development of related industries and raises the country's overall technological level.

Successful localization of production opens significant export potential for Ukraine. EU and NATO countries are increasingly reluctant to procure defense products containing Chinese components, making Ukrainian components, tested in combat conditions, uniquely valuable on the market. This enables Ukraine to position itself as a reliable producer of strategically important technologies. Targeted investments in localization and a consistent state policy will provide the scale required to enter international markets, increasing economic returns and creating a long-term strategic lever of influence for Ukraine within global defense supply chains.

In his annual address to the Ukrainian Parliament (Verkhovna Rada), President of Ukraine Volodymyr Zelenskyy emphasized that a key priority of the new economic policy should be "maximum support for Ukrainian entrepreneurship, localization and production in Ukraine. Everything that can be produced in Ukraine should be produced in Ukraine and purchased primarily from Ukrainian manufacturers, with all due respect to our partners."[6]

3. Snake Island Institute, Building the Arsenal: Securing the Components to Sustain Combat Power (2025), https://www.snakeisland.org/reports/68e571b2a2c7854986bd7634.
4. Danishevska, Kateryna. "Ukraine Must Produce 400,000 Drones Monthly to Compete with Russia – Shmyhal." RBC-Ukraine, September 15, 2025. https://newsukraine.rbc.ua/news/ukraine-must-produce-400-000-drones-monthly-1757597170.html.
5. Olena Bilousova, Kateryna Olkhovyk, and Lucas Risinger, From the Battlefield to the Future of Warfare: Harnessing Ukraine's Drone Innovations to Advance U.S. Military Capabilities (Kyiv: KSE Institute, 2025), 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/.
6. President of Ukraine, We Must Not Allow Anyone in the World to Doubt the Resilience of the Entire Ukraine – Annual Message of the President to the Verkhovna Rada, November 19, 2024, President of Ukraine Official Website, https://www.president.gov.ua/en/news/mi-mayemo-ne-dopustiti-shob-htos-u-sviti-zasumnivavsya-u-sti-94497.

Introduction

Ukraine is already gradually moving from assembling drones using imported components to producing these components domestically. According to the results of a joint survey conducted by the Snake Island Institute and the Ukrainian Council of Defence Industry, more than 80% of producers stated that they use Ukrainian-made components in at least one part of their drones.[7] One of the largest manufacturers, Vyriy, reports that 80% of the components in its systems are of Ukrainian origin.[8] At the same time, approximately 58% of IRON cluster members reported localization levels exceeding 30%.[9] While many components are still manufactured using imported materials, this represents an important step toward high-tech production where raw material constraints are not prohibitive. Had Ukraine not shifted from imported drones to domestically produced systems, production of their components—driven by demand from final system manufacturers—would not have emerged.

Similarly, achieving high-tech production of microcomponents requires a prior step: establishing production of the core components in which these microcomponents are used.

The objective of this study is to analyze the Ukrainian market for components for unmanned systems and EW assets, assess the potential for scaling and deeper localization of this sector, identify the successes and shortcomings of existing state policies and initiatives, and propose additional measures to accelerate the localization of components production in Ukraine.

7. Snake Island Institute, Building the Arsenal: Securing the Components to Sustain Combat Power (2025), https://www.snakeisland.org/reports/68e571b2a2c7854986bd7634.
8. Vyriy. https://www.vyriy.com/
9. Iron Cluster, “Localization Is a Crucial Topic for IRON, and Creating Value Chains Within the Cluster Has Always Been Our Priority,” October 31, 2025, https://www.facebook.com/ironcluster/posts/pfbid0B2sn659S8dk3GfcYGzddp7EpLHmUa6wBoPo7wSXSvgjuN1Dq1whTkbtSiwzqF1tLl?rdid=IBqMLIaI3RywBymG.

Overview of the Current Level of Component Localization

The Ukrainian market for components for unmanned systems is localized in a highly uneven manner. In certain categories, such as airframes and structural parts or communications components, supply is abundant, competition among manufacturers is intense, and localization levels are high. By contrast, in the production of more technologically complex components, the share of Ukrainian manufacturers remains limited: these segments are either only partially covered or almost entirely dependent on imports.

The main reasons for uneven localization can be summarized as follows:

- **Entry barriers for production.**
  Some components require neither significant capital investment nor advanced expertise. At the same time, the production of electronics, motors, or optical systems demands high-tech equipment, engineering capabilities, established R&D processes, and substantial upfront investment.
- **Ability to compete with foreign products.**
  In segments with simpler technologies (frames, antennas, analog transmitters, etc), Ukrainian manufacturers are capable of producing goods comparable in price and quality to foreign alternatives. In areas dominated by Chinese producers with scale, vertically integrated supply chains, and state support (motors, cameras, digital communications systems), competition is significantly more challenging.

Based on a combination of data collected through interviews with component manufacturers and open market sources, we assessed localization levels for key components of unmanned aerial systems (see Figure 1).

- **High level of localization (≈ 85%).**
  Airframes and structural elements: technologically simple to manufacture, requiring no unique materials or complex processes. Ukrainian manufacturers fully meet the needs of most drone producers.
- **Medium level of localization (50–70%).**
  Communications and control: analog video transmitters (VTX) and receivers (VRX), control receivers (RX), transmitters (TX), and antennas. In these categories, Ukrainian manufacturers are capable of supplying a significant share of the market.
- **Low level of localization (up to 25%).**
  Flight stack components (flight controllers and electronic speed controllers), electric motors, and thermal imaging cameras. These components require substantially more complex production processes and specialized inputs.
- **Near-complete absence of local production.**
  Digital video transmitters and receivers, daylight cameras, and a number of specialized electronic modules. In these segments, Ukraine is currently almost entirely dependent on imports.

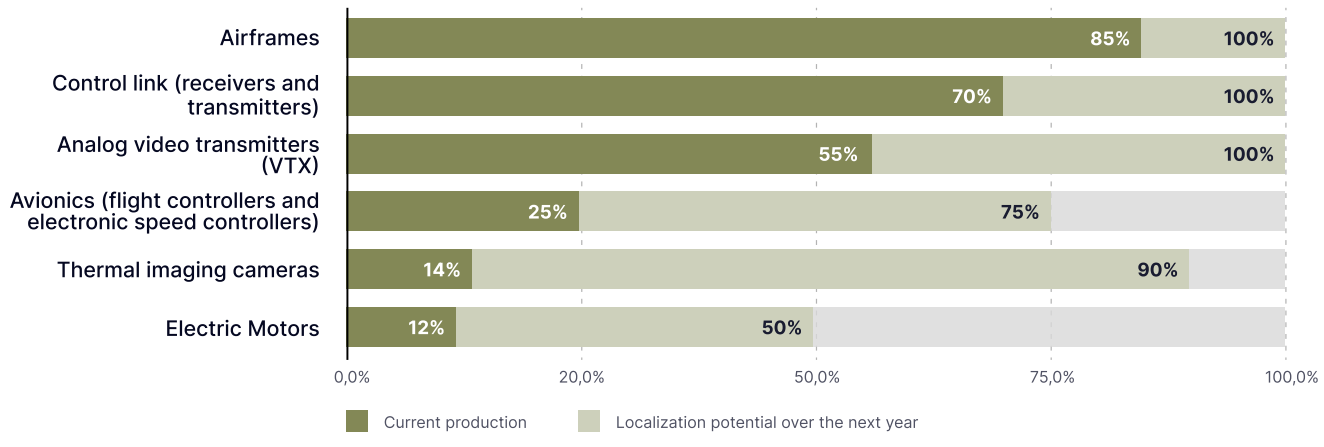


Figure 1. Share of Ukrainian components in Ukrainian unmanned systems.

Overview of the Current Level of Component Localization

The situation regarding localization by component is presented in more detail in the table below:

Components	Market representatives	Competitiveness	Origin of microcomponents/raw materials
Airframes	Polydrone, FiberForm, Ultracontact, Huga Systems, Gedz Tech, SolarAir, Drone Frames	Ukrainian manufacturers already cover most market demand and deliver faster than imports. Same-day customization and repair provide local airframes with a clear advantage over Chinese products. In mass production, the price of Ukrainian airframes is close to that of imported alternatives. Vulnerabilities remain primarily in the import of carbon fiber, rubber, and carbon-processing milling tools.	Key raw materials—carbon fiber and pre-pregs—are almost entirely imported. The primary source is China, which dominates global carbon production. Some alternatives come from Taiwan, but they are more expensive and limited in volume. Dependence on China's chemical base remains the main strategic risk.
Avionics (flight controllers and electronic speed controllers)	Vyriy, Tykho, Karma, Flytex, StingBee, XRush4 Tech, 603700	Ukrainian components usually cost the same or up to 30% more at retail, while Chinese products are cheaper in bulk due to large-scale discounts. Price differences are offset by higher quality and production "for stock." Some products offer unique features, such as camera switching.	Printed circuit boards (PCB) are predominantly sourced from China due to scale, technological capability, and low costs. PCB manufacturing exists in Ukraine, but capacity is limited, especially for 4–8-layer boards. Microcontrollers, transistors, and chips are imported from the United States, the EU, and Asia, with manufacturing concentrated mainly in China or Taiwan.
Thermal imaging cameras	Odd Systems, Oko Camera, SeekUAV	Price difference of 0–20% compared to foreign analogues. Quality is on par with imported solutions. Additional features tailored to military use (e.g., in-flight contrast adjustment for improved target detection).	Two main approaches are used: 1. Chinese sensors and lenses—cheaper, used in FPV drones and interceptors. 2. European sensors and lenses—significantly more expensive but more precise; used in bombers, reconnaissance platforms, and unmanned ground systems. Software is produced in Ukraine.
Battery packs	Pawell, BTRY.Energy, Scat, Evcell, Promavtomatika, Accum Systems, Acudrone	Pricing comparable to imported alternatives. Customization for different system types. Ballistic protection, which is absent in foreign analogues.	Battery cells are most often sourced from China, less frequently from South Korea and Taiwan. The remaining ~20% of cost—cables, fiberglass laminates, copper, fasteners, ballistic packages, etc.—is often sourced domestically.

Communications components (antennas, VTX/ VRX, TX/RX)	Radion, Sakura, Scream Industrials, 2E, Otaman, Piranha-Tech, DEC-1, Sine Engineering, Vyriy, Coalas, Bavovna, TAF Industries	High competition: the Ukrainian VTX market reaches approximately 150,000 units per month. Large producers adapt more slowly to frequency changes; small producers adapt quickly but cannot scale faster than Chinese competitors. Unique Ukrainian solutions (frequencies) can be several times more expensive—up to $500 compared to ~$100 for Chinese analogues.	Up to 50% of communications components (chips, enclosures, PCBs, cooling elements) remain Chinese. Chinese components are chosen primarily due to lower cost. Alternatives are sourced from Taiwan, South Korea, and the EU. Metal parts, enclosures, and 3D-printed components are produced locally.
Motors	Motor G, Eney, Real Gold, Aeromotor	Product quality matches leading global analogues. Engineering teams rapidly adapt designs to battlefield requirements. Local servicing and repair significantly reduce downtime. Strong R&D enables customized solutions for specific drone types. The main market constraint is lack of financing rather than technological capability.	Critical inputs (magnets, bearings, carbon, rubber, milling tools) are almost entirely sourced from China. Localized elements include copper wire (100%), housing parts (partially), and stators (up to ~80%). Alternatives from the EU and Asia are more expensive and slower to deliver. Dependence on Chinese magnets remains unresolved and cannot be addressed by Ukraine alone, as the same challenge affects the EU and the United States.
EW components	Abacus	Ukraine's EW market has grown into a broad ecosystem of small manufacturers that respond much faster than foreign companies and adapt systems to frontline tasks. Local EW devices are competitive primarily due to rapid update cycles, customization, and tactical alignment with battlefield scenarios, often making them more effective than imported analogues. Production costs can be lower in mechanical parts and antennas, but dependence on imported electronics makes final prices sensitive to global supply chains.	Segment vulnerability stems from the fact that up to 95% of electronic components are imported and critically dependent on Chinese suppliers. Key components include SDR modules from the United States, amplifiers from South Korea, Orange Pi boards from the United States/ China, and rotary mechanisms and some peripherals from China. The Ukrainian share in EW components remains below 5%, limited to antennas, cable assemblies, and mechanical parts. Housings, plastics, wiring, and metal elements are mostly sourced domestically, but this does not reduce the critical dependence on imported electronics.

Overview of the Current Level of Component Localization

Virtually all manufacturers interviewed described the same situation: production capacity can be expanded and output increased, but the market lacks stable and sufficient demand specifically for Ukrainian-made components. Final system manufacturers often prioritize foreign components, primarily Chinese ones.

Interviews with unmanned system developers highlighted several key reasons:

- **Price.**

  Ukrainian components are often more expensive than Chinese analogues due to smaller production volumes and higher unit costs. In some cases, higher prices are offset by better quality, customization for military needs, or proprietary software—and drone manufacturers are then willing to pay more. However, for most unmanned system producers, price remains the decisive factor.

- **Limited production capacity.**

  Large drone contracts require guaranteed ability to deliver significant volumes within tight timelines. Many Ukrainian component manufacturers do not yet have such capacity, while foreign companies, above all Chinese ones, can ensure uninterrupted serial supply. This creates a “vicious circle”: no contracts → insufficient capacity → no contracts.

- **Lead times and lack of inventory.**

  Final system manufacturers often need rapid contract fulfillment (especially following the introduction of the DOT-Chain Defence system from the Ukrainian Ministry of Defence), while local component producers do not maintain finished goods in stock due to limited working capital.
  A related issue is local manufacturers’ dependence on prepayments—state contracts often do not provide post-payment mechanisms, and final system producers are unable to finance advances themselves.

For many Ukrainian component manufacturers, higher prices are driven not only by scale but also by regulatory and competitive distortions. Tax and customs legislation frequently provides advantages to imported components. Ukrainian companies must also compete with international manufacturers that receive substantial support from their home governments (as one respondent noted, competitors from Spain and the United States benefit from state financing). The lack of financial support instruments constrains production modernization, capacity expansion, and inventory formation.

If supportive mechanisms are introduced, for example tax incentives, easier access to finance, grants, and procurement preferences, component manufacturers will be able to increase serial production, optimize manufacturing processes, and reduce unit costs. Final system producers, in turn, will more actively substitute imports with Ukrainian components, creating a self-reinforcing cycle: more demand → greater scale → lower prices → even more demand. In effect, only an initial push is required; the market can then sustain the momentum on its own.

In the medium term, scaling the component market will stimulate the development of deeper production layers —printed circuit boards, microelectronics, materials, and specialized modules—much as the explosive growth of the drone market itself generated demand for localized components.

The emergence of dedicated institutions and instruments, such as Brave1, Made for Victory, subsidized lending programs at 5%, and special regimes such as Diia City and Defence City, indicates the state's attempt to build an infrastructure for technology scaling and production localization. Each of these tools was created in response to specific market needs: rapid testing of new solutions, launching domestic production, financial support, tax relief, or formalizing draft-related arrangements for employees. Taken together, they form a multi-tier incentive system intended to gradually replace the defense sector's fragmentation with a more predictable development model.

Despite progress in institution-building and the expansion of support instruments for defense-industrial enterprises, manufacturers continue to face a number of persistent constraints. These include shortages of working capital, red tape , unclear eligibility criteria for preferential regimes, and dependence on the status of a direct contractor under state procurement. Respondents interviewed for this study note that state support instruments work well at the start-up stage, but weaken significantly at the scaling stage, precisely when large investments, stable orders, and longer production cycles are required.

Financial Support

Brave1 Grant Program

Background: Brave1 was established in April 2023 by the Ministry of Digital Transformation of Ukraine, the Ministry of Defense of Ukraine, the General Staff of the Armed Forces of Ukraine, the National Security and Defense Council, the Ministry of Strategic Industries of Ukraine, and the Ministry of Economy of Ukraine as a state Defense Tech cluster to accelerate the development of defense technologies by providing financial, informational, and organizational support to developers.[10,11] Its core mission is to rapidly convert innovative ideas into products ready for use by the Armed Forces on the battlefield, ensuring a technological advantage over the adversary.[12] Brave1 grants serve as early-stage "risk capital." They finance research and development (R&D), prototyping, and initial testing, significantly reducing financial risks for innovators at early stages of technological development.[13]

The maximum amount available under the standard grant program is up to UAH 8 million. The grant size depends directly on the score a project receives during the program's defense evaluation—specifically the overall score (Q) and the score in the "Current readiness level" category (R3). To receive UAH 500,000, a project must have an overall score of 4+ and an R3 score of 4+. The amount increases to UAH 1,000,000 if the overall score is 4+ and R3 is 5+. A UAH 2,000,000 grant is awarded when a project receives an overall score (Q) of 5 and an R3 score of 5. If the Q score reaches 6 and R3 remains at 5, funding of UAH 4,000,000 is available. The largest grant—UAH 8,000,000—is allocated to projects with an overall score of 7+ and an R3 score of 6+.[14]

10. Government of Ukraine. "Ukraine Launches BRAVE1 Defence Tech Cluster to Stimulate Development of Military Innovations and Defence Technologies." Government Portal, April 26, 2023. https://www.kmu.gov.ua/en/news/v-ukraini-zapustyly-defense-tech-cluster-brave1-iakyi-stymuliuvatyme-rozvytok-viiskovykh-innovatsii-ta-oboronnykh-tekhnolohii.
11. Dmytro Mykhailov and Karina Buhaychenko, "Ukraine Launches the Brave1 Platform for Military Technology Developers: What It Is," Suspilne, April 26, 2023, https://suspilne.media/457593-v-ukraini-zapustili-platformu-brave1-dla-rozrobnikiv-vijskovih-tehnologij-so-ce-take/
12. Government of Ukraine, "Brave1 Defense-Tech Cluster – One Year: Key Achievements of the Project," Government Portal, April 29, 2024, https://www.kmu.gov.ua/news/defense-tech-klasteru-brave1-rik-holovni-dosiahnennia-proektu.
13. Ibid.
14. Grant AV, Grants for Drone Manufacturing under the BRAVE1 Project, https://grant-av.com.ua/grants/hranty-na-vyrobnytstvo-droniv-v-ramkakh-proiektu-brave1/.

Ukraine's defense technology support model relies primarily on early-stage grant instruments, and Brave1 is the most illustrative example in this respect. Brave1's activity demonstrates a tangible impact on the development of the military-industrial complex. The cluster currently brings together 2,100+ developers who have presented 4,600+ solutions across key sectors, including unmanned aerial vehicles (UAVs), robotics, electronic warfare, communications, and artificial intelligence. As of 2025, more than 570 grants have been awarded for a total amount exceeding UAH 2 billion. These indicators point to the formation of a strong technology pool that can become a foundation for future localization.[15]

Although the program's primary focus has so far been on finished solutions and systems, component manufacturers among our respondents highlighted BRAVE1 as a key positive factor, one of the few state agencies that provided real assistance and funding, enabling innovation.

According to them, the initiative is effective for early-stage startups seeking to turn an idea or innovation into an existing product. However, this grant support is insufficient to reach large-scale production volumes and to finance the R&D investments that are critical for advancing both products and their components. For example, one manufacturer noted that compared to $700,000 invested into a product, a BRAVE1 grant of $25,000 did not cover even basic needs.

Manufacturers also pointed to red tape in both disbursement and reporting. According to the latest mentions in public sources, in late August 2025 the average review time for grant applications was reduced to 1.5 months. However, this still provides no clarity on the waiting time for the grant payout itself or the complexity of reporting requirements. Given that innovation cycles have shortened from years to months, an idea that could be useful in the near term may receive funding after it has already become irrelevant on the battlefield.

"Made for Victory" Grant Program

Background: Made for Victory was launched in April 2025 by the Ministry of Economy in cooperation with the Ministry of Strategic Industries. The initiative operates on a co-financing basis: 50% of the funding is provided by the state, with the remainder covered by manufacturers. Preferential conditions apply if an enterprise is located in frontline areas or specializes in UAV manufacturing (NACE 30.30)—in this case, the state share may reach 80% of equipment costs.[17] Maximum grant amounts are:

- Up to UAH 8 million — provided at least 5 jobs are created within 6 months from the date the grant is received
- Up to UAH 16 million — if fixed production assets damaged as a result of Russia's armed aggression are replaced or restored [18]

Upon receiving grant funds, the enterprise assumes several obligations to the state:

- Create and fill at least 5 new jobs within 6 months of receiving the grant
- Over 3 years from the grant date, pay taxes in an amount such that the total is at least equal to the grant amount
- Over 3 years from the grant date, ensure payment of the Unified Social Contribution (USC) on newly hired employees' wages in a cumulative amount of at least 20% of the grant amount
- Confirm compliance quarterly over the 3-year period

If an enterprise fails to meet any one of these conditions, it must repay to the state an amount equivalent to the grant.[19] A grant may be obtained again if the enterprise has a final act confirming full compliance with the previous grant's conditions, or in cases of restoring capacities damaged as a result of Russia's armed aggression.[20]

Grants under Made for Victory are intended to support enterprises producing components for weapons and military equipment. Within the initiative, the state finances the purchase, delivery, and installation of equipment and the implementation of software. Based on respondents' experience, programs of this type can be useful. First, they can provide startup capital to launch new enterprises and subsequently invest in purchasing, delivering, installing, and commissioning equipment. Second, because the grant covers only part of business expenditures while entrepreneurs finance the remainder, companies have an incentive to develop and maximize component production. At the same time, some respondents were not aware that the program exists, meaning its potential is currently underutilized.

However, grants such as Made for Victory have a number of limitations. Above all, funding volumes may be helpful for market entry but insufficient for scaling, where working capital, longer production cycles, and serial contracts become decisive.

In addition, the program's design may restrict access to the preferential 80/20 co-financing model for enterprises whose production is not classified under NACE 30.30. Formally, NACE 30.30 covers the manufacture of aircraft and key assemblies (fuselages, wings, landing gear, aircraft engines, etc.), while a significant share of drone components falls under other classes. For example, telecommunications equipment for satellites falls under NACE 26.30, aeronautical navigation instruments and systems under 26.51, and certain electrical components under 27.90. For many UAV component manufacturers operating under these or similar codes, this means they are not formally classified as "UAV manufacturers" under NACE 30.30, even if their products are critical elements of unmanned systems.

State-subsidized lending

Background: In November 2024, the Cabinet of Ministers of Ukraine, on the initiative of the Ministry of Strategic Industries, adopted Resolution No. 1288, introducing a specialized state-subsidized lending program at 5% annual interest.[21,22] The program terms defined by Resolution No. 1288 include:

- Eligibility: Defense-industrial enterprises designated by the Ministry of Strategic Industries as critically important for Ukrainian economy
- Use of funds: Investment purposes and working capital for the production/modernization of defense products
- Support mechanism: Partial interest compensation to reduce the rate to 5% per year
- Loan size: Up to UAH 500 million (investment loans) and up to UAH 100 million (working capital loans)
- Program administrator: Entrepreneurship Development Fund
- Participating banks: Only banks with a secure classified facility; currently five banks—Ukreximbank, Oschadbank, MTB Bank, PUMB, and Bank Credit Dnipro. [23]

15. Ministry of Digital Transformation of Ukraine, Brave1 — Projects, Ministry of Digital Transformation of Ukraine, https://thedigital.gov.ua/projects/technologies/brave1.
16. Maya Yarova, "Brave1 Launches Updated Grant Program and Competitions: Funding up to UAH 150 Million per Project," Scroll Media, August 28, 2025, https://scroll.media/2025/08/28/brave1-zapuskaye-onovlenu-grantovu-programu/.
17. Diia Business, "Up to UAH 8 Million for Development: New Grant Program to Support Manufacturers of Components for Weapons and Military Equipment," August 4, 2025, https://business.diia.gov.ua/news/do-8-mln-hrn-na-rozvytok-hranty-dlia-vyrobnykiv-u-sferi-oborony.
18. Diia, Grant for Manufacturing Processing Industry, https://diia.gov.ua/services/grant-na-pererobne-pidpriyemstvo.
19. Cabinet of Ministers of Ukraine, Some Issues of Grant Provision for Processing Enterprises, Resolution No. 739, section 26 (as amended July 11, 2025), https://zakon.rada.gov.ua/laws/show/739-2022-%D0%BF#Text.
20. Diia, Grant for Manufacturing Processing Industry, https://diia.gov.ua/services/grant-na-pererobne-pidpriyemstvo.
21. The Ministry of Strategic Industries ceased to exist in September 2025. All its responsibilities were transferred to the Ministry of Defense of Ukraine.

While grants are intended to support early-stage manufacturing, industrial-scale expansion of critically important defense-industrial enterprises is addressed through subsidized lending. As of November 2025, Ukrainian defense-industrial enterprises had received 80 loans totaling nearly UAH 5 billion. An additional 16 applications worth around UAH 700 million had already been approved for issuance, and 52 applications totaling more than UAH 4 billion were under review.[24]

A key condition for obtaining a subsidizing loan is for the state to recognize the enterprise as critically important to the national economy and for the enterprise to demonstrate that its components are used in the defense-industrial domain. In practice, respondents noted, this often means having direct supply contracts with state customers which is problematic for component manufacturers, since they are typically not the first-tier or direct contractors under state orders. Previously, some companies worked around this requirement by becoming subcontractors, but this pathway also involves bureaucratic complexity and depends on the willingness of the final product manufacturer.

Another barrier is that the program focuses primarily on lowering the interest rate but does not provide guaranteed risk insurance for banks. As a result, despite the reduced rate, banks continue to apply standard risk-based approaches to defence enterprises assessing production capacity, collateral, and the borrower's financial history. This creates substantial barriers not only for new enterprises and startups established after 2022 that have not yet accumulated assets, but also for innovative manufacturing projects that inherently carry higher risk.

The wartime context further aggravates this: enterprises face the risk of physical destruction due to Russian strikes, with precedents already observed. Paragraph 5 of Resolution No. 1288 provides that "state support may be provided together with state guarantees, including portfolio-based state guarantees."[25] The core issue is that the decision on which loans to include in a state-guaranteed portfolio remains with banks. In the absence of a mandatory state guarantee, banks' decisions on issuing loans effectively depend on their willingness either to absorb these risks or to allocate such loans to the guaranteed portfolio instead of other loans with a similar risk profile.

The lending program works effectively for large-scale serial manufacturers with direct, predictable contracts with the Ministry of Defense, because their substantial turnover makes them attractive to banks. Some respondents stated that these loans help address key bottlenecks of earlier grant programs, for example, the need to provide advance payments to suppliers. Whereas grants were primarily designed for startups launching production, loans are oriented toward large serial producers. However, for many component manufacturers interviewed in this study, who are not direct counterparties to state customers, the program is not effective. The main obstacles are the requirement to have the status of critically important for the Ukrainian economy and the constraints created by banks' risk-based approaches, which prioritize stable and predictable profits. As a result, a significant share of component manufacturers remains outside state support mechanisms, despite their critical role in building the defense-industrial supply chain.

22. Cabinet of Ministers of Ukraine, Some Issues of Providing Financial State Support to Enterprises Deemed Critically Important for the Functioning of the Economy in a Special Period in the Defense-Industrial Complex, Resolution No. 1288 (as amended March 6, 2025), https://zakon.rada.gov.ua/laws/show/1288-2024-%D0%BF#Text.
23. Ministry of Defence of Ukraine, "Support for Defence Industry Manufacturers: 50 Companies Received Concessional Loans Worth UAH 2.7 Billion," August 14, 2025, https://mod.gov.ua/en/news/support-for-defence-industry-manufacturers-50-companies-received-concessional-loans-worth-uah-2-7-billion.
24. Ministry of Defence of Ukraine, "One Year of Soft Loan Program for Defense Industry Enterprises: 80 Loans Totaling Nearly UAH 5 Billion," November 11, 2025, https://mod.gov.ua/en/news/one-year-of-soft-loan-program-for-defense-industry-enterprises-80-loans-totaling-nearly-uah-5-billion.
25. Cabinet of Ministers of Ukraine, Some Issues of Providing Financial State Support to Enterprises Deemed Critically Important for the Functioning of the Economy in a Special Period in the Defense-Industrial Complex, Resolution No. 1288 (as amended March 6, 2025), https://zakon.rada.gov.ua/laws/show/1288-2024-%D0%BF#Text.

Tax Conditions

Diia City and Defence City

Background: Diia City is a special legal regime originally designed to support the development of the IT sector, but it is also open to companies operating in the defense sector.

- **Tax advantages:** Instead of the standard 18% personal income tax, employees are taxed at 5%, while the Unified Social Contribution (USC) is paid at 22% of the minimum wage, rather than on the full salary. Companies may choose between a 9% tax on distributed capital, payable only when funds are withdrawn by owners, or the standard 18% corporate profit tax. If dividends are paid no more than once every two years, a 0% tax rate applies. In addition, investors may reduce their taxable income by the amount invested in the Ukrainian startups.
- **Employment:** Resident companies may choose among several employment formats: standard employment under the Labor Code, cooperation with sole proprietors, or gig contracts—a hybrid format available only to Diia City residents. For gig specialists, a reduced tax burden applies (5% personal income tax + 5% military levy + 22% USC on the minimum wage), while providing basic social protections. Diia City conditions are legally fixed as unchanged for at least 25 years.

Defence City is a new special legal regime for enterprises of Ukraine's defense-industrial complex, valid until 2036 or until Ukraine's accession to the EU. A Ukrainian company may become a resident if at least 75% of its revenue derives from defense activities, it has no tax arrears, has disclosed ownership, and has no links to Russia. Qualifying defense revenue includes the production, development, repair, modernization, or disposal of defense equipment, as well as works or services related to state defense contracts. If a company acts as a subcontractor in fulfilling a defense order, its revenue may also be counted as defense-related—subject to confirmation by the state customer.

At present, the Defence City regime is in the launch phase. Instead of a list of defense-industrial enterprises, a unified Defence City Register will be established and administered by the Ministry of Defense of Ukraine. The register is scheduled to launch in January–March 2026, with an estimated 50–70 enterprises expected to become the first residents in the first quarter of 2026.

A company may simultaneously be a resident of both Defence City and Diia City. However, in this case it loses Defence City tax benefits (exemptions from profit tax, property tax, land tax, and environmental tax), and employee income is taxed at the standard 18% personal income tax rate without the reduced USC benefit.

Diia City and Defence City are tax regimes intended to stimulate the development of Ukrainian technology and defense companies through tax incentives and special operating conditions. Almost all component manufacturers interviewed for this study are Diia City residents and generally assess the regime positively.

All resident respondents emphasized that Diia City tax conditions are significantly more favorable than the general taxation system—particularly due to the reduced tax on distributed capital, which allows greater reinvestment into production. Defence City is still being launched, but is designed to create a dedicated framework specifically for defense companies.

Diia City	Defence City
18% corporate profit tax or a reduced 9% withdrawn capital tax	Full exemption from corporate profit tax if all profits are reinvested into development
Land, environmental, and property taxes paid under general rules	Exemption from land, environmental, and property taxes
Standard export procedures	Simplified procedures for exporting military technologies and goods
5% personal income tax, 5% military levy, 22% USC on the minimum wage	Personal income tax and USC paid under general rules
0% tax on dividends paid no more frequently than once every two years	No option to distribute capital or pay dividends

Among the main potential risks of Defence City, manufacturers highlight financing constraints. Investors may be reluctant to participate if profits cannot be partially withdrawn as dividends, while the banking system still lacks mechanisms to properly assess defense companies, leaving sectoral lending limited. Another challenge is competition for talent: unlike Diia City, Defence City does not provide payroll tax incentives, making it harder to attract qualified IT and engineering specialists.

Manufacturers also note that the regime has a limited pool of eligible participants. Young companies and startups, unlike Diia City residents, cannot join immediately and access benefits, they must first operate for at least one year. Enterprises with partial foreign ownership cannot join Diia City or Defence City, creating barriers to investment attraction.

Criticality Status and Workforce Reservation

Background: Certain enterprises may reserve up to 100% of employees subject to military draft. This applies in particular to: [26]

- Institutions designated by the Ministry of Defense as critically important for the functioning of the economy during a special period in the defense-industrial sector
- Enterprises critically important for meeting the needs of the Armed Forces of Ukraine and other military formations

26. Деякі питання реалізації положень Закону України “Про мобілізаційну підготовку та мобілізацію” щодо бронювання військовозобов'язаних на період мобілізації та на воєнний час, Постанова Кабінету Міністрів України № 76 (Редакція від 15.11.2025). https://zakon.rada.gov.ua/laws/show/76-2023-%D0%BF#n111

A defense-industrial enterprise may obtain criticality status and the right to 100% reservation if it meets at least one of the following criteria [27]:

- Holds a valid:
  - State defense contract or is involved in its execution under subcontracting agreements
  - Contract for the production of defense goods financed from non-budgetary sources, including charitable funds, provided delivery is made to Armed Forces units
  - Contract with an enterprise included in the Ministry of Defense register of state defense contract executors

Mandatory condition: Defense production under these arrangements must account for more than 50% of total output

- Has received state grants (Brave1)
- Is authorized to manage state-owned defense assets

For subcontractors, documentation confirming participation in contracts and volumes of work or services must be prepared, approved by the prime contractor and customer, and submitted to the Ministry of Defense together with financial or statistical reporting for the latest period.[28]

Diia City residents may reserve up to 50% of staff subject to draft. This partial reservation mechanism functions in practice. However, under such limits, component manufacturers remain a vulnerable link: the loss of key specialists poses a real risk of disrupting production cycles.

To obtain criticality status and the right to full reservation, a manufacturer must confirm supplies to the defense sector. For component producers, this is particularly difficult, as they typically do not hold direct state contracts and operate primarily in a B2B format.

State contracts are executed by final good manufacturers, not component suppliers. These prime contractors are not required to list component suppliers in contracts. Subcontractors must be identified already at the bidding stage, while final good manufacturers cannot guarantee in advance that all components will be produced and delivered in the required volumes.

Moreover, a single contract often relies on multiple components from different suppliers to diversify risk, making it impractical to identify all suppliers in advance.

Bureaucratic complexity further complicates confirmation of deliveries to military units and, consequently, access to criticality status through alternative routes. Even when some products are supplied directly to military units, their share may be less than 50% of total production.

Despite these barriers, some of the interviewed manufacturers were nevertheless able to obtain criticality status and secure 100% reservation, primarily through participation in state contracts as subcontractors or by receiving Brave1 grants.

27. Ministry of Defense of Ukraine, On Approval of the Criteria by Which the Ministry of Defense of Ukraine Determines Enterprises, Institutions, and Organizations in the Defense-Industrial Complex, the Aviation Industry, and Space Activities as Having Important Significance for the National Economy, Order No. 722, October 28, 2025, https://zakon.rada.gov.ua/laws/show/z1582-25#Text.

Marketplaces

Brave1 Market

Background: Brave1 Market brings together manufacturers, military users, and state institutions within a single digital environment where defense solutions can be discovered, verified, discussed, and procured.[29] The platform enables military units with their own budgets or unit-level combat funds to independently select, compare, and purchase required technologies, equipment, or components. Brave1 Market is part of a unified digital defense technology infrastructure integrated with the Delta system. In addition to the catalog, Delta hosts Brave1 Chat, a communication channel that allows military users to contact Brave1 analysts and specialists directly, learn about available technologies, components, or substitutes, and submit requests for new solutions.

The launch of Brave1 Market marked a transition of Ukraine's defense sector from fragmented initiatives toward a more structured system for managing technological solutions. The marketplace performs two interrelated functions:

- Shapes demand for effective products by giving the military direct access to the market
- Strengthens internal competition among manufacturers, encouraging quality improvements and price reductions

The catalog includes printed circuit boards, flight control systems, antennas, batteries, propellers, ground control stations, optical modules, structural elements, etc.

Drone manufacturers generally view the launch of Brave1 Market positively as an attempt to organize the defense technology market and create a communication channel between developers and military users. At the same time, most note that the platform's practical effectiveness remains limited.

This limitation is particularly evident for component manufacturers. Most do not see tangible benefits from participating in Brave1 Market. Unlike final system developers, their products are not the direct object of military procurement and therefore remain less visible to end users.

According to respondents, the marketplace's current architecture is oriented more toward showcasing finished solutions than toward developing production cooperation or finding partners to assemble complex systems.

First, marketplace usage remains uneven. Some companies report that although their products are listed on the platform, they receive virtually no orders from the military, and inquiries from users are sporadic. This creates a gap between the public catalog and actual frontline demand. Manufacturers typically lack access to the closed loop within the Delta system, while levels of access among military users vary, making full synchronization of needs and capabilities difficult. As a result, for smaller producers Brave1 often functions more as a "showcase" than as a practical working channel for engagement with the military.

Second, state support, even with the existence of Brave1, is perceived as fragmented. Manufacturers value the creation of a centralized platform but argue that there is no single coordinating center bringing together developers, engineers, component suppliers, and end users. As a result, some initiatives duplicate one another, while interaction among technical teams, developers, and the military remains episodic rather than systematically managed. This leads to parallel communication channels without clear responsibility for coordinating technical requirements, standardization, or actual selection for frontline deployment.

28. Як подати документи підприємствам ОПК для отримання статусу критично важливих для економіки – роз'яснення Міноборони | Новини МОУ. (2025, 6 листопада). https://mod.gov.ua/news/yak-podati-dokumenti-pidpriyemstvam-opk-dlya-otrimannya-statusu-kritichno-vazhlivih-dlya-ekonomiki-roz-yasnennya-minoboroni
29. Militarnyi. "Маркетплейс #Brave1. Ціни, ТТХ виробів, зворотний зв'язок." (2025, 28 квітня). https://www.youtube.com/watch?v=HNZQ5F0-Plg

At the same time, military workshop personnel, such as operators, engineers, and repair teams, consistently emphasize the need of purchasing components directly, in the same convenient format used for ready-made drones.

They expect spare parts to be available via “e-points” or other rapid procurement tools, which would significantly reduce the burden on units and speed up repairs. Today, the situation is the opposite: most components are procured through “informal methods,” using volunteer or personal funds.

Library of Components

Background: The Library of Components is a closed digital database of Ukrainian manufacturers of components for weapons and military equipment, primarily for UAVs, EW systems, and related platforms, accessible exclusively to verified participants in the defense sector. It functions as a B2B platform for component producers and integrators, enabling companies to find one another directly and address technological needs without public or intermediary channels. It is positioned as a “secure database of Ukrainian manufacturers’ products,” with access granted only after verification.[30]

In addition to physical items (antennas, batteries, FPV frames, flight controllers, propellers, electronic modules), the platform includes manufacturing services such as CNC machining, casting processes, and 3D printing. It is therefore not merely a “parts catalog,” but an entry point to production capacity aimed at resolving localization bottlenecks.[31]

According to manufacturers themselves, in practice the Library of Components has yet to function as an active cooperation tool. Levels of engagement vary widely—from companies that have merely heard of the initiative to those that registered but saw no tangible results from participation.

Some enterprises did not proceed to submit information due to limited resources. Others completed registration and were added to the database, but no further communication followed. Manufacturers note that “no one buys anything,” which may indicate either low demand and limited platform popularity or the absence of mechanisms enabling real interaction among producers. In this situation, products listed in the library are disconnected from real frontline requests, creating the impression of an archive rather than a tool with practical application.

Several large manufacturers also stated that the Library of Components adds little value for them: they already maintain their own supplier networks and have long-established direct relationships with relevant producers.

In their view, the platform does not address the sector’s core challenges, while market interaction already occurs directly, as the component manufacturers typically contact drone producers via email or existing communication channels.

According to several respondents, the initiative requires tighter integration with real production processes, as the library currently “exists separately” from the operational needs of customers. Companies report that the database is updated irregularly and does not always reflect current changes in component portfolios or technological capabilities.

Overall, most respondents agree that the concept of the library has potential, but its usefulness depends directly on whether it becomes a continuously updated platform for active interaction, rather than merely a registry of contacts.

Difference Between Brave1 Market and the Library of Components

Brave1 Market and the Library of Components are oriented toward different levels of interaction within the defense industry, though their functionalities partially overlap. Brave1 Market operates as an open platform where the military can see available solutions, manufacturers showcase products, and the frontline provides feedback on effectiveness and needs. This creates a transparent demand-signaling system, making visible what the military requires and which technologies companies are developing.

The Library of Components, by contrast, operates in a closed mode and was conceived as an internal B2B cooperation tool for component manufacturers and integrators. It does not include open product cards or frontline feedback, but it does provide access to technically sensitive information and enables enterprises to find partners for production cooperation.

Given the number of components listed across both databases, it is clear that manufacturers perceived a need for such tools, yet expectations were not met. The existence of two parallel systems dilutes impact and creates unnecessary fragmentation of data, attention, and resources. From a market perspective, the drone ecosystem would benefit far more from a single strong tool that combines a public showcase with behind-the-scenes cooperation, rather than maintaining multiple platforms with partially overlapping functions. This is precisely what manufacturers emphasize: they need not a “set of platforms,” but one integrated environment where products can be showcased, partners found, and real demand from the military generated.

Stimulating Localization Through Procurement

State defense procurement is one of the key mechanisms that creates value for Ukrainian manufacturers and determines how quickly domestic production chains for drones and components expand. For manufacturers to scale, invest in equipment, and improve quality, the procurement system must not merely purchase finished products—it must stimulate the development of local components and retain added value within the country.

This logic is embedded in two foundational instruments: the Weapons of Victory resolution, which establishes a list of strategically important models and sets localization requirements, and Draft Law No. 13392, which introduces preferences and local-content thresholds in public procurement. Together, they create a framework in which procurement can function not only as a mechanism for supplying the frontline, but also as an industrial incentive for component manufacturers.

30. Ministry of Strategic Industries of Ukraine, “More Ukrainian Components in Ukrainian Weapons: MinStrategProm Launches a Component Library for Weapons Manufacturers,” April 8, 2025, https://mspu.gov.ua/news/bilshe-ukrainskykh-komponentiv-v-ukrainskii-zbroi-minstratehprom-zapuskaie-biblioteku-komplektuiuchykh-dlia-vyrobnykiv-zbroi.
31. Joseph K.,“Ukraine Integrates 3D Printing into Secure Military Supply Platform,” 3Dnatives, October 7, 2025. https://www.3dnatives.com/en/ukraine-integrates-3d-printing-into-secure-military-supply-platform-07102025/.

Resolution "Weapons of Victory"

Background: The Weapons of Victory resolution creates an official list of Ukrainian weapons, military, and special equipment models recognized as strategic and ready for serial production. It also defines an administrative framework: the list is approved by the Cabinet of Ministers upon submission by the Ministry of Defense, and amendments are introduced with the consent of the General Staff of Armed Forces of Ukraine. Importantly, the document envisages the development of long-term contracting mechanisms for items on the list, creating a basis for multi-year production planning. Only systems that have already completed the adoption cycle (acceptance into service, codification, or authorization for use) and have confirmed demand for at least several years ahead may be included.

At the same time, the resolution sets a high localization threshold of at least 50% of production cost, calculated using a formula that accounts for imported inputs (customs value and imported components purchased via Ukrainian suppliers) relative to production cost.

The degree of production localization is determined by the manufacturer using the following formula:

$$DL = (1 - (CV + IV) / C) \times 100\%$$

where DL is the degree of localization, CV is the customs value of imported raw materials/components, IV is the value of imported inputs purchased through Ukrainian suppliers, and C is the production cost.

contract. Rather, it is a mid-level instrument between the two: the list sets a mandatory reference point for state customers when planning procurement and setting priorities. Inclusion signals that a product has already passed the authorization cycle, has confirmed demand, can be scaled, and aligns with strategic defense planning objectives. In effect, Weapons of Victory establishes a product nomenclature around which the Ministry of Defense and the General Staff can build predictable procurement programs, including the possibility of long-term contracts—not automatically, but subject to budget decisions and confirmed volumes.[32]

Its core logic is the combination of two requirements: technological maturity and local production. In practical terms, the resolution creates a semi-binding framework: inclusion does not guarantee a contract, but significantly increases the likelihood of participation in medium- and long-term programs and provides the state with an instrument for structured procurement policy. For planning purposes, it functions as a reference list ("procure from this list"), while not preventing customers from purchasing other items in case of urgent need.

For manufacturers, the list serves as a signal to invest in seriality, standardization, and localization, since these products are more likely to become part of multi-year procurement plans.

Despite its strategic intent and substantial potential, the Weapons of Victory resolution faces a number of practical challenges that affect its real effectiveness in procurement. The priority-purchasing logic declared in the document has so far worked unevenly: sector analysts note that state customers do not always use the mechanism as intended, while a number of decisions remain opaque or are delayed at the coordination stage. This is particularly evident in cases where Ukrainian enterprises have already mastered serial production of certain items, but actual orders do not follow. A frequently cited example is artillery ammunition production, which reached the required localization level, yet procurement was not synchronized with the new rules.[33]

A key challenge also remains the difficulty of concluding long-term contracts. Ukrainian manufacturers would benefit from three-year or longer agreements with government guarantees, which would allow production planning and capacity scaling. However, due to the difficulty of forecasting the state budget, such contracts are currently largely unavailable.

The localization requirement of at least 50% of production cost creates not only an incentive but also a barrier. For sectors heavily dependent on imported electronics, optics, engines, and sensors, this threshold is too high. As a result, promising products may fail to enter the list not because of technological weakness, but due to the structural import dependence of specific assemblies.

The serial-production criterion also imposes constraints.

Many small engineering teams producing some of the most innovative solutions for drones, EW, or control systems do not yet have a full serial production cycle. Formally, they do not meet the resolution's requirements, even though from the frontline's perspective they may be among the most valuable. This creates a potential gap between what the military needs immediately and what can be officially included in the list.

Finally, the procedure for adding items to the list of Weapons of Victory depends on decisions by the Ministry of Defense, the General Staff, and the Cabinet of Ministers. Since inclusion unlocks access to long-term contracts and procurement prioritization, excessive opacity or procedural delays create potential corruption risks. Given the financial and political stakes, clarity of criteria, transparent justifications, and regular updates with public reporting are essential.

Localization Provisions in Defense Procurement

Background: Under Cabinet of Ministers Resolution No. 363 (Issues of Defense Procurement), the approved criteria and methodology for evaluating the most economically advantageous offer define localization as a non-price evaluation criterion in competitive defense procurement procedures. The resolution provides that a contracting authority may consider a range of indicators, including the level of production localization.[34]

In practice, most defense procurement in Ukraine is not conducted competitively. Due to high demand and the need to respond rapidly to frontline requirements, state customers most often conclude contracts directly with manufacturers or suppliers using non-competitive procedures. Under these conditions, the non-price evaluation criteria defined by Resolution No. 363 (including localization) are not applied, because they are triggered only in competitive procurements where bids from multiple participants are compared.

When Ukraine returns to broader use of competitive defense procurement, the localization criterion will become an effective mechanism for stimulating domestic production. However, at the current stage it cannot play this role, creating the need for other instruments that also function in non-competitive defense procurement.

32. Cabinet of Ministers of Ukraine, On the Procedure for Forming the List of Samples (Complexes, Systems) of Weapons, Military, and Special Equipment ("Weapons of Victory") Produced and Supplied by Domestic Manufacturers, Resolution No. 1504 (effective January 1, 2025), https://zakon.rada.gov.ua/laws/show/1504-2024-%D0%BF.
33. Defense Express, "MoD Does Not Order Ukrainian Artillery Shells, 'Weapons of Victory' Does Not Work, but Again Nobody Is to Blame," June 17, 2025, https://defence-ua.com/people_and_company/minoboroni_ne_zamovljaje_ukrajinski_artilerijski_snarjadi_zbroja_peremogi_ne_pratsjuje_ale_znovu_nihto_ne_vinen-19203.html.
34. Cabinet of Ministers of Ukraine, Defense Procurement Issues, Resolution No. 363 (as amended September 11, 2025), https://zakon.rada.gov.ua/laws/show/363-2021-%D0%BF#n19.

Background: On 4 November 2025, the Verkhovna Rada adopted Draft Law No. 13392 at first reading, introducing amendments to the Law of Ukraine On Public Procurement and the Law of Ukraine On Defense Procurement with respect to localization:

1. The localization formula is changed.
Localization is now calculated based on a product's production cost (PC) rather than total cost, using the formula:

$$DL = (1 - (CV + IV) / PC) \times 100\%$$

where CV is the customs value of imported inputs, IV is the value of imported inputs purchased from a resident entity, and PC is the production cost of the product.

2. A guaranteed minimum localization level is introduced for public and defense procurements above UAH 1 million: 25% in 2025, with stepwise increases in subsequent years.

3. Price preference in competitive procedures. If a localized and a non-localized product compete within the same competitive procedure, the bid price of the localized product is automatically reduced by 25% for evaluation purposes, giving it a substantial advantage.

4. The non-price criterion in defense procurement is amended. The law introduces a scale of weighting depending on localization level: from 3% (for localization of 10–19%) to 25% (for localization of 60%+).[35]

Subparagraph 2 of paragraph 6-1 of the Law of Ukraine On Public Procurement defines the list of goods subject to localization requirements. The list includes, among other items, "helicopters, airplanes, spacecraft, and other powered aircraft," which directly covers unmanned aerial vehicles.
Accordingly, all UAV-sector products fall under the changes envisaged by Draft Law No. 13392.[36]

The shift in the localization calculation formula (using production cost instead of total cost) means manufacturers will no longer be able to artificially increase localization figures by inflating marketing or administrative expenditures. Under this model, production localization reflects the real share of Ukrainian labor, materials, and technological operations.

The mechanism of reducing the evaluation price of localized goods (0.75 × price) and the non-price criterion ("localization weighting") apply only in competitive defense procurement. As noted above, most defense procurement today is non-competitive, meaning these tools cannot be applied in practice and do not incentivize localization under current conditions.

By contrast, the guaranteed minimum localization requirement (25% in 2025 and 30% in 2026) applies regardless of whether a procedure is competitive, including single-source procurement. This is the most effective instrument for stimulating localization under the current defense procurement model.

Overall, this approach is supported by manufacturers. They expect that localization requirements in contracts can genuinely stimulate the development of domestic production. Some final system manufacturers emphasized that a formal procurement preference would signal the need to invest in new production lines, increase the share of Ukrainian components, and expand output. Business views this not as a barrier but as an opportunity: if procurement rules truly reward localization, companies are ready to invest in technology, assembly, and R&D.

35. Verkhovna Rada of Ukraine, Draft Law on Amendments to the Law of Ukraine "On Public Procurement" and Certain Legislative Acts of Ukraine Regarding the Local Component (Localization) in Public and Defense Procurement, Draft Law No. 13392 (registered June 20, 2025), https://itd.rada.gov.ua/billinfo/Bills/Card/56609.
36. Law of Ukraine, On Public Procurement, Law No. 922-VIII (as amended October 31, 2025), https://zakon.rada.gov.ua/laws/show/922-19#Text.

New localization thresholds, as well as the price preference for localized goods in defense procurement, create predictable demand for Ukrainian products and stimulate investment in production lines, particularly in the defense sector.

At the same time, a "new wave of localization requirements" could significantly complicate implementation for both customers and suppliers. Ministerial inspections, the risk of contracts being declared void, and new thresholds generate regulatory burdens and legal uncertainty during the transition period. For small and medium-sized businesses and manufacturers of high-tech/dual-use components (such as UAV electronics), detailed accounting, complex calculations, and fear of making localization-percentage errors may become a de facto barrier to participation in procurement. There is a risk that customers will choose the "simplest" path, either avoiding complex procurements or acting overly cautiously and delaying decisions, which could undermine procurement speed. To mitigate these risks, civil society experts propose clear secondary legislation, simplified approaches for SMEs, transparency in the commission's work, and flexible but formalized exceptions for critically important items where local production does not yet exist.[37]

At the same time, manufacturers' practical experience shows that any localization policy delivers benefits only when implemented gradually and in line with the real capabilities of the market. If it becomes an end goal without established supply chains, without bottleneck removal, and without investment in capacity—systemic risks emerge:

- **Higher procurement costs.** Local components are often more expensive, and localization requirements automatically raise contract prices.
- **Quality decline.** Ukrainian equivalents do not always match the characteristics of imported components, potentially reducing battlefield effectiveness.
- **Delivery delays.** Ukrainian component suppliers often delay batches due to limited capacity and long production cycles; delays cascade to drone manufacturers and frontline delivery timelines.
- **"Localization on paper."** Companies may perform only minimal "assembled in Ukraine" operations to formally meet requirements without creating real added value.
- **Industry unpreparedness.** Many segments lack the technology and equipment to localize quickly without sacrificing quality or production tempo.

Summarizing, manufacturers support the course toward increasing the Ukrainian share in production of components, but insist that localization must remain an incentive for development rather than a mechanical requirement that could block supplies of critical components. The gradual increase of localization levels, the Weapons of Victory list, and Draft Law No. 13392 form a strategic framework in which the state sets the direction for domestic technology development and signals investment priorities along production chains. The procurement system must account for constraints and ensure uninterrupted frontline supply, avoiding delays caused by formal non-compliance. Localization should function as a development mechanism, not as a filter restricting access to critical products. Manufacturers are broadly aligned in their view: localization is necessary, but its pace and depth must be calibrated so as not to undermine serial drone production or create gaps in deliveries to the line of contact.

37. dozorro.org, "A New Wave of Localization Requirements in Procurement: What Draft Law No. 13392 Is Preparing," October 22, 2025, https://dozorro.org/blog/nova-hvilya-vimog-lokalizaciyi-v-zakupivlyah-sho-gotuye-zakonoproyekt-13392.

Tax and Customs Regulations

One of the most frequent answers respondents gave when asked about the key barriers to the development and competitiveness of Ukrainian-made components was an uneven tax environment that, in practice, incentivizes imports while failing to support the purchase of Ukrainian components. This asymmetry did not emerge intentionally. When the current tax legislation was designed and exemptions were introduced, the domestic market for components for unmanned systems largely did not exist, and the specifics of their production and supply chains were not taken into account. Today, the sector is developing rapidly, and the existing tax architecture no longer matches the market's real structure, creating imbalances that require urgent revision.

In response to Russia's aggression, the Verkhovna Rada of Ukraine adopted a number of bills as early as 2014, amending the Tax Code of Ukraine (TCU) to provide tax exemptions for defense products. Such products included, in particular, unmanned aerial vehicles and their parts.

On 2 September 2015, the Verkhovna Rada adopted Draft Law No. 4556a-1, resulting in Law of Ukraine No. 1658-VII. This law expanded paragraph 32 of subsection 2 of section XX ("Transitional Provisions") of the TCU (hereinafter para. 32)—operations involving the import into the customs territory of Ukraine and the supply of UAVs and their parts were exempted from value-added tax (VAT).[38]

Regarding the practical application of the then-version of paragraph 32, two key points should be noted:

- The law specified that products had to be designated as defense products under the Law of Ukraine On the State Defense Order (now repealed). As a result, the exemption primarily applied to products manufactured under state contracts.
- Classification of what constituted UAVs and their parts was defined by UCGFEA codes—the primary customs classifier in Ukraine. Codes 8802 and 8803 were used ("Aircraft" and "Parts of aircraft"). The problem was that code 8803 (and under the updated version of Ukraine's Customs Tariff—8807 for parts of unmanned aerial vehicles) did not cover all drone components. For example, electric motors, microelectronics, batteries, and other critical elements fell under different codes. In 2014, this did not create major issues, as almost all drones used at the front were fully imported.

After the start of the full-scale invasion, on 1 April 2022 Ukraine adopted Law No. 2173-IX (effective 16 April 2022), which expanded paragraph 32. From that point, it applied to operations involving UAVs and their parts where the end user, under an end-user certificate or contract terms, was defined as "law enforcement agencies, the Ministry of Defense, the Armed Forces of Ukraine, other military formations, voluntary territorial defense formations, or other entities engaged in counterterrorism or national security and defense measures."[39] This provided a more flexible interpretation and enabled use of the exemption beyond state contracts.

Subsequently, on 10 April 2023, Law No. 3019-IX (effective 3 May 2023) was adopted. In addition to adding more codes (including those relevant to maritime unmanned systems), it extended the exemption to "enterprises that are prime contractors (or subcontractors) under state defense procurement contracts."[40] Under this framework, if a component manufacturer (whose products fell under UCGFEA 8807 or other codes referenced in paragraph 32) sold to an unmanned system manufacturer that was a prime contractor under a state contract, such transactions were exempt from VAT.

38. Law of Ukraine, On Amendments to the Tax Code of Ukraine Concerning the Exemption from Taxation of Defense-Related Products, No. 1658-VII (as amended March 4, 2015), Verkhovna Rada of Ukraine, https://zakon.rada.gov.ua/laws/show/1658-18/ed20140902.
39. Law of Ukraine, On Amendments to the Tax Code of Ukraine and Other Legislative Acts of Ukraine Regarding the Administration of Certain Taxes During Martial and Emergency Law, No. 2173-IX (April 16, 2022), Verkhovna Rada of Ukraine, https://zakon.rada.gov.ua/laws/show/2173-20/ed20220416#Text.
40. Law of Ukraine, On Amendments to Subsection 2 of Section XX "Transitional Provisions" of the Tax Code of Ukraine Regarding the Exemption from Value Added Tax for Supply/Import of Goods for Security and Defense Needs During Martial Law, No. 3019-IX (May 3, 2023), Verkhovna Rada of Ukraine, https://zakon.rada.gov.ua/laws/show/3019-20#Text.

However, Law No. 3019-IX also introduced an important clause:

"In the case of transactions exempt from VAT under subparagraphs 4 and 5 of this paragraph (in the part concerning the supply of goods under state defense procurement contracts), the provisions of paragraph 198.5 of Article 198 and Article 199 of this Code shall not apply to such transactions."

This meant that when supplying components to a final system manufacturer acting as a state contract prime contractor, the prime contractor does not pay VAT under paragraph 32. At the same time, the component manufacturer is forced to reverse the portion of its input VAT credit formed from VAT paid at import, because the supply transaction is not itself a state procurement. As a result, VAT paid at import effectively becomes a direct cost for the component manufacturer, shifting the tax burden onto component production and significantly reducing the economic attractiveness of Ukrainian-made components.

Although paragraph 32 also provides VAT exemptions for import operations, in practice it is now rarely used for imports. Instead, imports of unmanned-system components are governed by other provisions—paragraph 95 of subsection 2 of section XX ("Transitional Provisions") of the TCU (hereinafter para. 95) and paragraph 9-27 of section XXI ("Final and Transitional Provisions") of the Customs Code of Ukraine (hereinafter para. 9-27).

Paragraph 95 provides a VAT exemption on imports into Ukraine, while paragraph 9-27 provides an exemption from import duties. Both provisions share a common structure and aligned amendment history. Paragraph 9-27 contains a specific list of UCGFEA codes eligible for the exemptions, which paragraph 95 references directly.

In May 2023, Laws of Ukraine No. 3123-IX and No. 3124-IX added these provisions to the TCU and the Customs Code, introducing VAT and duty exemptions for the import of UAV components. In December 2024, the list was expanded to include maritime and ground unmanned systems.[41,42]

Components are defined by UCGFEA codes, and, unlike paragraph 32, paragraphs 95 and 9-27 use a broader list of codes to cover most elements of unmanned systems.

The key eligibility criterion for an importer to use these exemptions is that it must be an unmanned-system manufacturer importing components specifically for the production of such systems.

To better explain the relationship and practical application of paragraphs 32, 95, and 9-27, the report provides a schematic diagram illustrating how these provisions were likely intended to operate for UAV manufacturers.

A Ukrainian UAV manufacturer imports components and sells finished systems under a state contract.	
Cost of imported components	**$300**
Import duty	Under para. 9-27, if the importer is a UAV manufacturer (UCGFEA 8806) and the end user is the Armed Forces of Ukraine, no import duty is paid. **$0**
VAT on import	Under para. 95, if the importer is a UAV manufacturer and the end user is the Armed Forces of Ukraine, no VAT is paid. **$0**
Production costs (labor, equipment, etc.)	**$40**

41. Law of Ukraine, On Amendments to Subsection 2 of Section XX "Transitional Provisions" of the Tax Code of Ukraine Regarding the Exemption from Value Added Tax on Import of Goods for the Production and/or Repair of Unmanned Systems, No. 3123-IX (June 22, 2023), Verkhovna Rada of Ukraine, https://zakon.rada.gov.ua/laws/show/3123-20#Text.
42. Law of Ukraine, On Amendments to the Customs Code of Ukraine Regarding the Exemption from Import Duty for Certain Defense-Related Goods and Goods for the Production and/or Repair of Unmanned Systems, No. 3124-IX (June 22, 2023), Verkhovna Rada of Ukraine, https://zakon.rada.gov.ua/laws/show/3124-20#Text.

Total UAV unit cost (components + duty + production costs)	$340
Margin	25%
UAV sale price (excluding VAT)	$425
State contract value	The supply of UAVs (UCGFEA 8806) under a defense contract is VAT-exempt under para. 32. $425

At first glance, this system appears convenient and effective. It simplifies operations for Ukrainian UAV manufacturers and reduces the final price of drones: the manufacturer pays no duty on component imports, and the Armed Forces are exempt from paying VAT when purchasing finished products. This was the original intent behind the relevant legislation.

However, the situation becomes more complicated when viewed from the perspective of component manufacturers. The report compares two scenarios for a UAV producer:

- purchasing components from a domestic manufacturer
- importing equivalent components directly from abroad

Ukrainian UAV manufacturer imports propellers from China	**Ukrainian UAV manufacturer purchases propellers from a Ukrainian manufacturer**
Chinese manufacturer purchases raw materials $100	Ukrainian component manufacturer imports raw materials $100
	The transaction does not fall under para. 9-27 or para. 95, as the component manufacturer is not a UAV manufacturer; therefore, import duty and VAT apply under the standard procedure: Import duty: 10% = $10 VAT: 20% of customs value = $22
Production costs (labor, equipment, energy, etc.): $30	Production costs (labor, equipment, energy, etc.): $30
Propellers cost (raw materials + duty + production costs): $130	Propellers cost (raw materials + duty + production costs): $140
Margin: 25%	Margin: 44.6% [43]
Final propellers price: $162.50	Final propellers price: $202.50

43. The margin is set in such a way that, in the end, the net profitability, including VAT and duty costs, is the same for the Chinese company and the Ukrainian manufacturer.

Because the importer is a UAV manufacturer (UCGFEA 8806) and the end user is the Armed Forces of Ukraine, para. 9-27 and para. 95 apply at import—no duty and no VAT are paid. Propellers cost for the UAV manufacturer: **$162.50**	The supply falls under para. 32, so the UAV manufacturer does not pay VAT. However, because the sale is not executed under a state contract, the component manufacturer must cancel $22 of input VAT credit previously claimed on import. Propeller cost for the UAV manufacturer: **$202.50**
Total tax burden: **$0**	Total tax burden: **$22**
Profitability of the Chinese manufacturer: [($162.5 - $130) / $130] * 100% = **25%**	Profitability of the Ukrainian manufacturer: [($202.5 - ($130 + $10 + $22))/($130 + $10 + $22)] * 100% = **25%**

The comparison shows that to maintain the same profitability as a Chinese producer, a Ukrainian component manufacturer is forced to set a substantially higher final price—approximately 40% higher relative to raw material cost under a 25% margin. As a result, UAV manufacturers have a clear economic incentive to import components directly, even despite formal tax benefits.

In addition, Ukrainian component manufacturers face a cash-flow gap at the import stage, as they must pay duty and VAT before selling the finished product.

Moreover, many components (unlike propellers) do not fall under UCGFEA 8807 (“Parts of unmanned aerial vehicles”) or other codes referenced in subparagraph 5 of paragraph 32. Accordingly, they are not covered by the VAT exemption provided under paragraph 32. For such components, the situation differs somewhat, as demonstrated in the report’s next table using electric motor production as an example.

Ukrainian UAV manufacturer imports electric motors from China	**Ukrainian UAV manufacturer purchases electric motors from a Ukrainian manufacturer**
Chinese manufacturer purchases raw materials and microcomponents **$100**	Ukrainian component manufacturer imports raw materials and microcomponents **$100**
	The transaction does not fall under para. 9-27 or para. 95, as the component manufacturer is not a UAV manufacturer; therefore, import duty and VAT apply under the standard procedure: Import duty: 10% = **$10** VAT: 20% of customs value = **$22**
Production costs (labor, equipment, energy, etc.): **$30**	Production costs (labor, equipment, energy, etc.): **$30**
Electric motors cost (raw materials + duty + production costs): **$130**	Electric motors cost (raw materials + duty + production costs): **$140**
Margin: **25%**	Margin: **25%**
Final electric motors price: **$162.50**	Final electric motors price: **$175**

Because the importer is a UAV manufacturer (UCGFEA 8806) and the end user is the Armed Forces of Ukraine, para. 9-27 and para. 95 apply at import—no duty and no VAT are paid. Electric motors cost for the UAV manufacturer: **$162.50**	The supply does not fall under para. 32, as electric motors are not included in the list of eligible components. Accordingly, the sale is subject to VAT. Electric motors cost for the UAV manufacturer: **$210** [44]

In this case, the gap between the effective price of domestically produced components and imported equivalents is smaller—12.5% of the value of microcomponents and raw materials. Nevertheless, customs payments still increase the cost base of Ukrainian components, sustaining a price differential and preserving the incentive for final system manufacturers to choose imports.

Thus, the current tax system is most damaging to manufacturers of components under UCGFEA 8807 and certain other positions covered by paragraph 32. They do not charge VAT on sales, but must irreversibly pay VAT when importing raw materials and microcomponents. For producers of other components, the main problem remains import duties, which directly raise production costs.

In both cases, the payment of import duties and VAT on imported raw materials and inputs creates an additional cash-flow gap. This factor significantly slows the development and scaling of domestic component manufacturing.

Almost all component manufacturers interviewed identified the existing tax system as the main obstacle and the key reason their products are less competitive. One of the largest UAV manufacturers also highlighted the need to change these norms and their impact on the competitiveness of Ukrainian components.

Potential Solutions

As inclusion of components in the list of codes covered by paragraph 32 creates the key difference in the tax burden, manufacturers of those components are forced to raise their final prices substantially. One possible solution is a **targeted amendment to the last paragraph of para. 32—namely, removing the condition that the norm "the provisions of paragraph 198.5 of Article 198 and Article 199 of this Code shall not apply" is limited to state procurements only**. The proposed change would extend this exemption to all transactions specified in subparagraphs 4 and 5, regardless of whether the product is sold directly to the state or to manufacturers executing state contracts.

This would allow component manufacturers not to reverse input VAT credits in typical commercial transactions and would significantly reduce the final price of components covered by paragraph 32. This change is proposed in Draft Law No. 14169, which was passed during the preparation of this report.[45] At the same time, it would not resolve all structural market problems and would have additional consequences, summarized below.

44. The VAT paid becomes an input VAT credit for the UAV manufacturer and can be refunded if it is not offset against tax liabilities. Therefore, the actual comparison should be made using final prices excluding VAT — $162.5 versus $175.
45. Draft Law of Ukraine, On Amendments to Subsection 2 of Section XX "Transitional Provisions" of the Tax Code of Ukraine Regarding VAT on Import of Goods for Security and Defense Needs, Draft Law No. 14169 (October 30, 2025), Verkhovna Rada of Ukraine, https://itd.rada.gov.ua/billinfo/Bills/Card/58606.

Amendment to the Last Paragraph of Para. 32 (Subsection 2, Section XX of the TCU)		
What the proposal addresses	A substantial reduction in the tax burden on component manufacturers covered by para. 32 (20% of the customs value of imported raw materials and microcomponents), directly lowering costs and final prices	
Additional benefits	The extension would also apply to sales of final systems outside state contracts (e.g., to charitable organizations or military units), reducing tax burden and final prices for non-state recipients	
Problems it does not solve	Components both within para. 32 and outside it would still remain more expensive than imported analogues due to differences in duty exemptions	The cash-flow gap for component manufacturers at the import stage remains
Additional challenges introduced by this proposal	Reduced budget revenues due to expanded exemptions	Component manufacturers covered by para. 32, as well as UAV manufacturers, may face negative VAT balances. If these cannot be offset against other VAT liabilities, manufacturers would need to seek VAT refunds from the state—often a lengthy and bureaucratically complex process

Overall, amendments to para. 32 would significantly improve conditions for component manufacturers within its scope. However, the cost of both groups of components would still remain higher than imported analogues due to import duties. Critically, the changes create a negative VAT balance and a need for VAT refunds—an issue that is difficult to resolve through policy intervention.

For components outside para. 32, an economically irrational situation emerges: when such components are sold to UAV manufacturers, the latter must pay VAT and then seek refunds, because their sales of final systems are fully VAT-exempt.

Therefore, when implementing changes to para. 32, it is also advisable to expand the list of components in subparagraph 5 of para. 32 to avoid such economically irrational scenarios.

To address unequal conditions at the import stage due to VAT and import duty payments, two opposite approaches are debated.

Approach 1: Expand Para. 95 (TCU) and Para. 9-27 (Customs Code) to Component Manufacturers.

This would extend duty and VAT exemptions not only to UAV manufacturers, but also to component manufacturers, and broaden the list of raw materials and microcomponents eligible under these provisions.

A notable precedent is fiber-optic spools.

In June 2025, Laws No. 4473-IX and No. 4474-IX introduced a provision extending these exemptions not only to UAV manufacturers but also to producers of spools with fiber-optic cable.

In practice, such spools can serve as an alternative to radio control and video transmission systems, potentially replacing components such as video transmitters, video receivers, and control TX/RX units. It remains unclear why the exemption was expanded only to fiber-optic spools and not to other functionally similar, more widely used components.

Nevertheless, the mechanism could be applied to other components as well, helping to remove tax distortions and equalize conditions for some Ukrainian component manufacturers.

Expanding Para. 95 (TCU) and Para. 9-27 (Customs Code)		
What the proposal addresses	Eliminates the cash-flow gap for component manufacturers at the import stage	Equalizes tax burden, and therefore cost and price, between Ukrainian components and imported analogues
Additional benefits	UAV manufacturers would more often choose Ukrainian components once they become price-competitive, leading to: • retention and multiplication of funds domestically rather than outflows abroad through imports • scaling of domestic component manufacturers → more jobs and future tax revenues • greater resilience to external shocks	Reduces the cost of unmanned systems already using Ukrainian components, lowering overall state defense procurement spending
Problems it does not solve	Component manufacturers covered by para. 32 would still have to reverse a portion of VAT credit formed from VAT paid on raw materials and microcomponents. However, the amount of reversal would be significantly smaller, as it would arise only for Ukrainian materials and microcomponents.	
Additional challenges introduced by this proposal	Reduced customs and tax revenues due to expanded exemptions	Potential increase in tax minimization schemes via “masking” imports as component production Need for additional control mechanisms

The proposed expansion of import exemptions would reduce monthly duty receipts. The state would also forego VAT revenue at the import stage, but a significant portion of that VAT would return after the production cycle is completed and Ukrainian components are sold on the domestic market (for those components not covered by para. 32). This effect is specific to a scenario where import exemptions are implemented separately. If they are introduced after amendments to para. 32, there would be no additional impact on tax revenues.

In any case, even with a negative direct fiscal effect, reducing customs and tax burdens for component manufacturers would lower costs, and therefore the final price of unmanned systems. This would allow the state to save on procurement amounts exceeding the initial budget revenue losses. The logic is straightforward: every hryvnia of duty paid at import multiplies into the final product price through the margins of component manufacturers and then UAV manufacturers. **Reducing fiscal pressure across the supply chain therefore yields a larger aggregate gain at the procurement stage.**

When adopting such a decision, it is important to avoid the earlier mistake made when exemptions for UAV manufacturers were introduced without accounting for the prospects of domestic component production. In this case, domestic production of subcomponents should be considered. A reasonable option could be limiting exemptions to raw materials and key subcomponents that are unlikely to be localized in the medium term.

For Ukrainian subcomponent manufacturers, unequal conditions would be less acute because their market is broader and not limited to unmanned systems, but it should still be accounted for in policy design.

Approach 2: Repeal Existing Import Exemptions for UAV Manufacturers

The opposite approach, also discussed in the sector, is not to extend exemptions to component manufacturers but to abolish existing exemptions for imported components for UAV manufacturers. This is attractive primarily for the state, as it would significantly increase tax revenues. The obvious contradiction, however, is that it would create an additional financial burden for UAV manufacturers by removing exemptions and would increase the cost of final products in state contracts, raising state expenditures. At the same time, such practice is typical for NATO countries, where exemptions for imported components are not provided, suggesting it may be appropriate to consider after the active phase of the war.

Repealing Para. 95 (TCU) and Para. 9-27 (Customs Code) Exemptions		
What the proposal addresses	Equalizes the tax burden, and therefore cost and price, of some Ukrainian components with imported analogues	
Additional benefits	UAV manufacturers would more often choose Ukrainian components once they become price-competitive, leading to: • retention and multiplication of funds domestically rather than outflows abroad through imports • scaling of domestic component manufacturers → more jobs and future tax revenues • greater resilience to external shocks	Increased customs and tax revenues due to repeal of the exemption
Problems it does not solve	Component manufacturers covered by para. 32 would remain in a more difficult position, as they would still be required to reverse part of their VAT credit and therefore irreversibly pay VAT on imports	The cash-flow gap for component manufacturers at the import stage remains
Additional challenges introduced by this proposal	Additional burden on final system manufacturers, increasing their production costs and, consequently, state procurement costs	A cash-flow gap for UAV manufacturers at the component import stage

Selecting the specific mechanism to equalize conditions between Ukrainian and imported components is complex, multi-factorial, and remains the subject of expert debate. This study outlines possible approaches and analyzes their potential impact, advantages, and drawbacks. Determining the optimal policy configuration requires a broad industry discussion with access to full data on procurement and import volumes, involving key stakeholders such as the Ministry of Defense and the Ministry of Finance. This approach would enable a comprehensive assessment of different scenarios and support a decision that balances support for Ukrainian manufacturers with the sustainability of public finances.

Financial Incentives

As noted above, the current system of financial instruments available to Ukrainian component manufacturers is constrained by three interrelated structural problems.

- First, the size of existing grants is insufficient to support the scaling of serial production, limiting companies' ability to increase output and enter larger markets.
- Second, access to liquidity remains a major bottleneck. Subsidized loans are largely unavailable to component manufacturers due to their lack of critical defense-industrial enterprise status, while standard commercial loans—unbacked by insurance or guarantees—are difficult to obtain given the high risk profile of the sector.
- Third, there is a growing mismatch between production and procurement cycles. Manufacturing cycles typically last around three months, while procurement cycles are increasingly compressed to a matter of weeks. This gap creates liquidity stress and makes access to working capital critically important.

It is important to emphasize that the problem of insufficient grant size exists indeed, and calls for "more resources" are justified. However, the solution cannot be reduced to a simple increase in budgetary spending, especially under conditions of fiscal constraint. We therefore propose a different approach: identifying ways to mobilize additional resources without increasing the burden on the state budget and redirecting these funds away from mass startup subsidies toward capital investment and instruments that directly strengthen the sector's production capacity. On this basis, the following set of tools is proposed to increase the effective volume of grant funding and investment in critical technologies without a significant expansion of public expenditures.

Brave1 Grant Program for Component Manufacturers

The Brave1 grant program has already demonstrated strong effectiveness in the unmanned systems segment, stimulating innovation and supporting production scaling. At the same time, available data indicate that the majority of grant funding has been directed toward manufacturers of final systems, while support for component manufacturers remains limited.

Interviews with Ukrainian companies confirm that even recipients of grants typically received relatively small amounts (between UAH 500,000 and UAH 1 million) despite the fact that the formal ceiling can reach up to UAH 8 million.

Against this backdrop, we propose establishing a dedicated, targeted Brave1 grant program specifically for component manufacturers. These grants should be used for research and development (R&D), modernization of production lines, and procurement of equipment required for knowledge-intensive manufacturing.

Priority should be given to companies capable of delivering large production volumes in critical and technologically complex segments, as well as to those manufacturing strategically important components. Particular attention should be paid to market segments where local supply remains limited. While Ukrainian-made frames are used in more than 85% of systems, other components, such as electric motors, thermal imaging cameras, and certain microcomponents, cover only around 15% of demand (see Figure 1).

Grant allocation should be prioritized based on the criticality of the component, the manufacturer's capacity, and potential production volumes. At the same time, grant disbursement should be optimized and digitalized to ensure the fastest possible access to funding.

A targeted grant program of this kind would create a comprehensive incentive for localization and the development of high-technology components.

In the future, expanded Brave1 grant programs could be further developed through the introduction of repayable grants. Under this model, companies receive funding for R&D and production modernization without mandatory repayment if the product fails commercially. In the event of commercial success, the company repays the grant gradually through royalties linked to revenue, allowing the fund to become self-financing and to reinvest the success of some projects into new ones. This approach effectively transforms the grant fund into a self-sustaining mechanism.

A comparable model is implemented by the Israel Innovation Authority (IIA) under The Encouragement of Industrial Research and Development Law (R&D Law).[46] The core "R&D Fund" formula typically covers 20–50% of an approved R&D budget, with the remainder financed by the company. In the case of commercial success, the company pays royalties of 3–5% of annual product sales until 100% of the grant amount plus interest is repaid. In Ukraine, implementing such a system would require legislative changes and the creation of a transparent mechanism for monitoring beneficiary revenues, but strategically it would allow for a substantial increase in grant support without additional fiscal outlays.

Expanding the "Made for Victory" Grant Program

Consideration should also be given to expanding the "Made for Victory" grant program with regard to access to preferential financing terms. At present, only companies located in frontline regions or direct UAV manufacturers classified under NACE code 30.30 are eligible for state coverage of up to 80% of equipment costs. This formalistic approach significantly narrows the pool of eligible applicants, as many critical component manufacturers operate under different economic activity codes despite the essential role their products play in unmanned systems.

We therefore propose extending the 80/20 co-financing mechanism to manufacturers of components included in the list of critical components recommended below in the section on obtaining critical status. This would help eliminate the current imbalance, whereby component production receives less support than final drone assembly (which, for "non-core" NACE codes, is currently subject to a standard 50/50 formula). Such a step would stimulate domestic production of complex electronics and mechanical systems by granting manufacturers of critical components access to the same opportunities as final system producers.

46. Israel Innovation Authority, Royalties & Intellectual Property, https://innovationisrael.org.il/en/royalties-intellectual-property/.

Attracting Foreign Capital

This direction aims to mobilize external resources and expertise to finance defense technologies produced in Ukraine through integration into existing international programs. Key priorities include the Ukraine Facility, the future European flagship fund for the reconstruction of Ukraine, as well as instruments of international financial institutions and development finance institutions (IFIs and DFIs). These mechanisms could open access to foreign funding for dual-use products in the form of loans and grants.

A new vector of cooperation may emerge through the SAFE (Security Action for Europe) program. The SAFE mechanism grants Ukrainian enterprises a unique status as official subcontractors, effectively treating their products as European within the mandatory 65% localization quota. This creates a legal basis for integrating Ukrainian manufacturers into European consortia, although practical implementation will still require addressing export control issues and harmonizing procurement procedures. It is important to note that these structural preferences are primarily designed for final-product manufacturers. For component producers, the impact will be largely indirect and dependent on their ability to integrate into the supply chains of major European contractors.[47]

The creation of a hybrid investment fund remains an important strategic option. This model envisages state participation at approximately 30% as an anchor investment to mitigate risk, with the remaining 70% provided by private investors. The fund would be managed by private professionals to ensure transparency and access to technological expertise. At present, however, investment in Ukraine's defense technology sector remains limited. According to report by AVentures, total funding raised in 2024 amounted to just $50–60 million—a modest figure compared to investment volumes in partner countries.[48] The current investment landscape is dominated by private initiatives such as D3, Green Flag Ventures, and Nezlamni. Large-scale private investment in production assets is constrained by wartime risks, making the introduction of insurance mechanisms through MIGA or dedicated donor pools critically important. An additional obstacle to co-investment models is the state's inability to act as a passive limited partner without mandatory audits by supervisory bodies, which creates barriers to Western capital participation.

Targeted Lending Program

The existing state-subsidized lending program is effectively inaccessible to component manufacturers due to two key factors:

- The requirement to be recognized as a critically important DIC enterprise
- The absence of guaranteed state-backed risk insurance

The first issue can be addressed by expanding the criteria for defining critically important DIC enterprises, as discussed below. The second issue, however, is equally important.

Financial institutions are reluctant to lend to the unmanned systems sector and its component manufacturers due to:

- High technological and market risk (short innovation cycles, uncertain export policy, dependence on government orders)
- The risk of physical destruction of production facilities due to military action
- The short operating history of most firms

47. Transatlantic Dialogue Center, Can SAFE Make Ukraine Safer? Insights into the New European Financial Instrument, n.d., https://tdcenter.org/2025/09/02/can-safe-make-ukraine-safer-insights-into-the-new-european-financial-instrument/.
48. Yevgen Sysoyev, Yuliya Sychikova, Volodymyr Lyashenko, Marta Havlovych, and Tetyana Torchylo, 2024 Overview: Dealbook of Ukraine—Covering Tech Investment Deals in Ukraine since 2014 (AVentures, March 2025).

Accordingly, there is a clear need to expand the subsidized lending program established under Cabinet of Ministers Resolution No. 1288 by introducing a state guarantee covering the loan principal. A guarantee-based model should become a core element of the program, as state guarantees are the only effective way to offset the risks that currently deter banks from lending to UAV and component manufacturers.

In designing such a system, Ukraine could draw on the structure of the "Affordable Loans 5-7-9%" program, which already includes tested mechanisms for state guarantees and cooperation with authorized banks. Under the proposed model, the state would cover up to 80% of the loan principal through a guarantee issued by the Entrepreneurship Development Fund, significantly reducing banks' exposure.

After a guarantee payout, the state would recover a proportional share of funds collected by the bank through collateral enforcement or debt resolution procedures, ensuring the revolving nature of the Fund's resources.

Implementing this model would create a safe operating environment for banks working with startups, firms with short financial histories, and manufacturers of high-risk components, thereby opening access to capital across the entire drone sector.

Expansion of the State-Subsidized Lending Program under Resolution No. 1288	
Proposal	Expand the existing state-subsidized lending program by introducing a state guarantee model. • The Entrepreneurship Development Fund guarantees up to 80% of the loan principal • The Fund recovers a proportional share of funds collected during debt resolution
What the proposal addresses	The current subsidized lending program is inaccessible to many UAV and component manufacturers due to the high risks banks must absorb in the absence of state guarantees.
Problems it does not solve	The introduction of a state guarantee does not resolve the issue that many component manufacturers lack critically important DIC status and therefore remain ineligible for lending. This gap is addressed by a separate proposal to create a list of critical components, discussed in the section on obtaining critical status.
Additional challenges introduced by this proposal	Introducing a state guarantee model will require additional budgetary resources to backstop guarantees. One potential offsetting measure would be a moderate increase in the subsidized interest rate, with the resulting savings redirected toward risk insurance mechanisms.

Changes to procurement rules, criteria, and mechanisms

In recent years, Ukrainian defence policy has gradually been developing a new architecture for production localization. The Weapons of Victory Resolution and Draft Law No. 13392 signal an intent to stimulate the growth of Ukrainian drone production lines and to bring manufacturers of assemblies and components into the domestic industrial cycle. In practice, however, there is still no effective mechanism to operationalise these intentions.

For localization to function as an incentive rather than a barrier, the state must apply procurement-policy tools that encourage production in Ukraine without artificially inflating prices, degrading quality, or creating risks of delivery delays to the front. The key tools that can perform this function are: a guaranteed minimum localization threshold, long-term contracts, an expanded profit margin, and a compensatory price criterion. Each of these mechanisms contains real potential, but each also faces practical constraints that must be taken into account.

The first tool is implementation of the approach introduced by Draft Law No. 13392. **A minimum localization requirement in defence contracts** can begin delivering results immediately—provided the threshold is set cautiously and reflects actual production capacity. It should be achievable without a material increase in costs and without a decline in product quality. By contrast, **using localization as a non-price evaluation criterion** currently has limited impact due to the low competitiveness of most defence procurement. In the future, however, once procurement shifts toward broader competitive procedures, it may become one of the most effective mechanisms for stimulating local production.

The second tool is **long-term defence contracts for localized products**. The Weapons of Victory Resolution announced them as a key industrialisation incentive. Long contracts give manufacturers a basis to invest in new lines, increase the share of Ukrainian components, and establish serial production cycles. In practice, however, the state cannot legally guarantee funding three years in advance: the budget is adopted annually, and any “three-year contract that can be cancelled” formulation undermines the very purpose of long-term planning.

A possible solution could be a mechanism of conditional long-term or framework contracts, in which the state assumes responsibility for the product range and minimum volume, while annual funding is determined and adjusted each year. This avoids false guarantees while still enabling companies to plan component localization over a 2–3-year horizon.

One of the key economic incentives for manufacturers could be an **increased permissible profit margin**. A proposal to raise it (for example, by an additional 5% for products whose localization exceeds a defined threshold) does not create an additional fiscal burden. On the contrary, that 5% largely returns to the state. First, through higher tax revenues driven by increased profits and scaling of manufacturers. Second, through expanded activity: a company with higher profits invests in equipment, personnel, and R&D, generating new economic output. In this sense, higher margins are not an overpayment—they are an investment incentive that encourages manufacturers to localize complex operations in Ukraine while remaining broadly budget-neutral.

Alongside financial incentives, the logic of technical differentiation is also important. Not all drone components are equally amenable to localization. Some can be localized quickly—housings, certain mechanical elements, wiring, certain harness elements, battery packs. Others are extremely complex or nearly impossible to localize rapidly: high-precision sensors, optics, thermal imaging modules, inertial sensors, engines, radio-frequency blocks, and specialised control boards. It is therefore advisable to consider dividing components into two categories: those suitable for rapid localization, and those requiring long-term investment or remaining imported due to objective technological constraints. For the first group, localization thresholds and price preferences can be applied in full. For the second, more flexible approaches should be considered: lower localization thresholds, alternative compensatory coefficients, or phased-localization requirements under which a company commits to expanding the Ukrainian share over a defined period. This would ensure fair competition and prevent technologically complex products that are critical for the front from being blocked.

A separate direction could be the **gradual introduction of a requirement or incentive for foreign unmanned-system manufacturers supplying the government of Ukraine to use a portion of Ukrainian components in their products** wherever this is technically feasible and does not affect combat performance. This practice is not unique: it has long been widely used in NATO countries' defence procurement. For example, Canada (through the Industrial and Technological Benefits Policy) requires a share of contract value to be returned through local production or participation of Canadian firms, while Turkey (through the Military Offset Guideline and Local Content Liability) obliges foreign suppliers to integrate Turkish components and manufacturers into their programmes.[49,50]

For Ukraine, this creates an opportunity to deepen cooperation with foreign manufacturers, secure access for Ukrainian component companies to international supply chains, and increase the share of domestic value added in defence programmes. At the same time, such a requirement should not become a hard barrier.

It should apply only to state defence contracts and only where integrating Ukrainian assemblies does not harm system quality or functionality. This would preserve the attractiveness of the market for foreign producers while still stimulating the development of Ukraine's technological base.

Overall, procurement policy in the armaments and military equipment sector should support domestic industrial development while not undermining serial production or the front's ability to receive equipment without delays. Flexible localization thresholds, the option of framework contracts, an increased profit margin, and a differentiated approach to component complexity together form a model in which localization is an investment incentive rather than a barrier. This approach would enable a steady increase in the Ukrainian share of drone and subsystem production, supporting sustainable industrial growth and strengthening defence capability without negatively affecting quality or delivery tempo.

Direct Procurement of Components by Military Units

All military workhouses we interviewed noted that a significant share of their workload is driven by the fact that unmanned systems supplied under state contracts often include components that have already become outdated due to the time lag between requirement-setting and delivery to the end user. Most often, this affects video-link modules and control channels, where working frequencies at the front change dynamically and outdated components require replacement immediately upon receipt of the systems.

Following the introduction of the combat "e-points" system, the situation improved substantially: units gained the ability to choose UAVs independently, assessing their characteristics and the presence of the necessary up-to-date components. At the same time, it should be noted that the mechanism for direct procurement by military units already operates under Cabinet of Ministers Resolution No. 1275, allowing units to purchase both complete systems and their components on an expedited basis.

The next logical step is to extend the "e-points" mechanism directly to component procurement. This would allow military workhouses to buy the exact modules that match the operational situation in a specific sector of the front, reducing the need for manual upgrades of state-supplied systems. Implementation is significantly simplified by the fact that most critical components are already listed on the Brave1 platform through which "e-points" purchases are made.

For manufacturers of certain components, this would translate into higher demand and more predictable, systematic orders, supporting the development of Ukraine's component market overall.

49. Innovation, Science and Economic Development Canada. «Industrial and Technological Benefits (ITB) Policy». https://ised-isde.canada.ca/site/industrial-technological-benefits/en/industrial-and-technological-benefits
50. Gödekoğlu, Kortan, i Safak Herdem. «Outline of Turkey's New Military Offset Guideline». Herdem Attorneys at Law, 11 квітня 2023 р. https://herdemlaw.com/en-us/explore/outline-of-turkeys-new-military-offset-guideline/

Voucher-Based Grant System

Another experimental option could be a partial reform of Brave1 grant programmes (or other grant programmes) for final-product manufacturers through a blended financing mechanism: combining direct financial support with issuing part of the grant in the form of vouchers redeemable for Ukrainian-made components.

To implement this approach, it is necessary to establish a list of Ukrainian components and materials that have demonstrated competitiveness. The list should be built on market principles and open competition: any Ukrainian manufacturer can apply for inclusion, after which the product would undergo independent evaluation, testing, and approval. Inclusion would be based on technical specifications, quality, reliability of supply, and the "price-to-quality" ratio. In other words, this list would not be an administrative designation but a market-based procedure with transparent criteria and competition.

Once such a list exists, a new UAV startup receiving a grant would receive a defined share (for example, 20–30%) not as cash but as a voucher usable only for purchasing items from the list.

The grant recipient would independently decide which supplier to buy from and which components to procure.

Introducing this mechanism does not require increased budget expenditures: the overall size and structure of grant financing remain unchanged, but part of the funding is automatically channelled to support domestic manufacturers.

Potential implementation challenges include the need for operational support to a commission or expert body responsible for accepting applications, conducting technical verification, and regularly updating the list. This would require additional administrative capacity or delegation of certain functions to existing institutions such as Brave1.

Despite these challenges, a blended grant model could become an effective tool for developing domestic component production and reducing Ukraine's defence industry dependence on external suppliers.

Another source of funding for component manufacturers could come from exports. In 2022–2024, Ukraine's market developed under tight export restrictions. There is no statutory ban on exporting weapons from Ukraine. Instead, the State Export Control Service blocks licences manually, citing a "threat to national security," meaning the de facto ban rests not on legal provisions but on the political will of key stakeholders.[51] This approach applies both to finished military products and to components, which are predominantly dual-use items.

For manufacturers, this creates a clear "ceiling". Domestic demand keeps production lines occupied, but leaves little room for scaling, jeopardising investment in R&D and higher localization levels. Without exports, companies struggle to move from short, unstable state contracts to a predictable operating model that justifies investment in equipment, engineering teams, test ranges, and similar capabilities. This affects both producers of finished unmanned aerial vehicles (UAVs), who could localize production of certain component categories in Ukraine if they had guaranteed external demand, and component manufacturers, who can scale as demand from integrators grows.[52]

According to interviewed manufacturers, some companies already export specific items that are not formally classified as military or dual-use (for example, certain types of video transmitters). Others, by contrast, face external demand for products such as batteries or other elements but cannot export because these items are treated as dual-use and fall under the control regime. Some state this directly: "there is not only no political will, but also no workable mechanism", so even when they have enquiries they effectively cannot access external markets. The absence of a clear export regime slows both drone manufacturers and the component producers that depend on them, who could otherwise drive localization across the entire supply chain.

Against this backdrop, in 2024–2025 the state has been gradually adjusting its course. In September 2025, President Volodymyr Zelenskyy publicly announced preparations for a strategy of "managed" exports as a tool for financing and scaling weapons production.

In the public domain, however, the leadership's position on exporting components has not been articulated. The strategy envisages three core partner groups: the United States, European countries, and other trusted states. Priorities are defined sequentially: first, meeting the needs of the Armed Forces of Ukraine; second, building stockpiles; and only then, controlled exports with safeguards for Ukrainian technologies.[53] In late October 2025, it was announced that the controlled export programme for Ukrainian weapons would begin as early as November 2025. The first phase envisages limited batches of combat, reconnaissance, and strike UAVs produced under Ministry of Defence contracts, with the dual aim of increasing the share of Ukrainian weapons in defence to over 50% and opening a channel for revenue from external customers.

Manufacturers' positions broadly align. Exports enable higher serial production, lower unit costs, and, simultaneously, faster fulfilment of domestic orders. For component manufacturers, exports are a chance to increase localization in segments that still depend on imports. Those with isolated export cases emphasise the need for a fast, clear procedure. Exports do not divert resources away from the domestic market. On the contrary, they expand manufacturers' capabilities and increase their capacity to supply the front.

However, companies' primary priority must remain saturating the domestic market with everything required for weapons production and ensuring supply-chain stability. At the same time, exporting components, rather than complete systems, gives Ukraine an opportunity to anchor itself in Europe's drone-technology sector. Components naturally extend into civilian and industrial applications; they are easier to scale and easier to integrate into cooperative production models. European states need new suppliers of power modules, sensors, optics, electronics, and navigation systems. In this context, the Build in Ukraine / Build with Ukraine approach is gradually shifting from finished platforms toward the component base. For partners, this is a way to reduce dependence on suppliers oriented around Chinese components and to gain greater production flexibility.

51. Kateryna Mykhalko, "Why the State Needs Exports of Ukrainian Weapons", Ekonomichna Pravda, October 3, 2024, https://epravda.com.ua/columns/2024/10/03/720136/.
52. Financial Times, "Ukraine Weighs Lifting Arms Export Ban to Scale Up Drone Industry," October 9, 2024, https://www.ft.com/content/aec4c3b3-56ab-4774-b342-250d5445ba6e
53. Reuters, "Zelenskiy Says Ukraine to Present Strategy for Managed Arms Exports in Two Weeks," September 19, 2025, https://www.reuters.com/world/zelenskiy-says-ukraine-present-strategy-managed-arms-exports-two-weeks-2025-09-19/

For Ukraine, it means growth in capabilities and jobs, investment in production and testing capacity, and development of localized complex assemblies.

Accordingly, component exports—provided dual-use standards and European control rules are respected—are not a threat but one of the key tools for developing Ukraine's industrial potential. They remove the constraints of the "domestic ceiling", strengthen the ability to invest in localization, and position Ukraine as a natural partner in shaping European production chains. The state's task, therefore, is not to block exports but to build a transparent, European, and predictable regime that ensures two core principles: prioritisation of Ukraine's domestic needs and open opportunities for the controlled development of export.

Component exports, when compliant with dual-use rules and European export-control requirements, do not threaten domestic needs. They strengthen industrial capacity, unlock financing that cannot be obtained solely within the Ukrainian market, and remove the domestic "ceiling". The state should establish a predictable European-style regulatory model that simultaneously guarantees priority for Ukraine's defence needs and provides space for controlled export growth. Because the mechanism is still being formed, it is critical to involve the military in defining the nomenclature and control parameters. They are best placed to identify surplus capacity and product groups that should be allowed first, so that exports do not drain the domestic market, but instead stimulate it.

Obtaining Criticality Status

For manufacturers of critical components, being designated as an enterprise critical to the functioning of the economy unlocks access to specialised support regimes, including VAT exemptions and state-subsidized lending, and allows for the reservation of up to 100% of military-age employees.[54]

Under Order No. 722 of the Ministry of Defence, one pathway to obtaining this status is the execution or co-execution of a state defence contract. At least 50% of total output in the most recent reporting period must consist of defence products delivered under such contracts.[55] In addition, at the time of submitting documentation for critical status, the state contract must be active. Personnel reservation may be granted for up to 12 months.[56] In practice, however, most interviewed component manufacturers operate in a business-to-business (B2B) model, supplying other defence companies rather than military units or military authorities directly. As a result, they typically do not hold their own state contracts and cannot independently confirm deliveries to the armed forces, which complicates meeting the basic criteria for obtaining critical status.

Some interviewed manufacturers have managed to coordinate with final-system producers to be included in state contracts as co-executors, or to confirm their criticality through alternative pathways. However, this mechanism is not universally applicable to all component manufacturers and can prove overly complex for the reasons outlined below.

The current legal framework governing the status of co-executors under state defence contracts is structured in a way that leaves most drone component manufacturers formally outside the defence procurement system, even though their products are used in equipment supplied to the Armed Forces.

Law of Ukraine No. 808-IX On Defence Procurement defines co-executors (subcontractors) as business entities engaged by the prime contractor under separate agreements to perform parts of a state contract. Component manufacturers may become co-executors through supply contracts for finished products.

The threshold-based approach set out in Cabinet of Ministers Resolution No. 1275 requires disclosure of co-executors only when their share reaches at least 20% of the contract value for works or services; this rule does not apply to goods.[57] In such cases, neither the contracting authority nor the prime contractor is obliged to formally include component suppliers in the list of co-executors. Legally, they remain ordinary counterparties without a direct link to the state contract.

Another challenge for component manufacturers is that the formal decision to involve an enterprise as a co-executor may be taken before it is actually engaged in production. In competitive procedures used for some defence procurements, the issue of subcontractors or co-executors is resolved at an early stage. The Law On Defence Procurement provides that subcontracting for works or services is permitted only if the contracting authority allows it in the tender documentation and the bidder indicates its intent to involve subcontractors and provides information about them in its bid.[58] After the winner is selected, the participation of co-executors is typically explicitly stipulated in the state contract as part of its terms.

Once a state contract is signed, adding a new co-executor effectively constitutes an amendment to agreed contractual terms and requires approval from the contracting authority. For UAV supply contracts—often concluded as direct contracts or under simplified procedures—the final-system manufacturer submits a complete package detailing price, cost structure, and production configuration at the time of signing. Under these conditions, including new co-executors after contract signature requires additional approvals and may cause delays. Consequently, component manufacturers engaged at later stages of contract execution (for example, following testing or configuration changes) are, in practice, not added to contracts as co-executors.

Payment terms also affect component manufacturers' willingness to seek co-executor status. Cabinet of Ministers Resolution No. 1275 allows for advance payments of up to 70% of the value of defence goods, works, and services for a period of up to 12 months.[59]

54. Ministry of Defense of Ukraine, "Ministry of Defence will designate critical defense enterprises," September 15, 2025, https://mod.gov.ua/news/minoboroni-viznachatime-kritichno-vazhlivimi-pidpriyemstva-opk.
55. Ministry of Defense of Ukraine, On Approval of the Criteria by Which the Ministry of Defense of Ukraine Determines Enterprises, Institutions, and Organizations in the Defense-Industrial Complex, the Aircraft Industry, and the Space Sector as Having Important Significance for the National Economy, Order No. 722, November 3, 2025, section 2, https://zakon.rada.gov.ua/laws/show/z1582-25#Text.

However, this provision grants the contracting authority the right (not the obligation) to provide advance payments. Based on respondents' experience, a significant share of contracts (especially those concluded on short notice to meet urgent needs) are effectively signed with partial or full post-payment terms. With the introduction of DOT-Chain Defence, contracts and payments will occur faster and exclusively on a post-payment basis, as they will be formed directly from military orders within the system, and UAV delivery timelines will shrink from several months to several weeks. For small component manufacturers, this means they must finance the entire production cycle themselves—manufacturing goods, procuring materials, and paying personnel—before receiving payment from the state customer. In the absence of sufficient working capital or accessible credit, this creates substantial cash-flow gaps and financial risks.

An additional issue is that, under the current state contract model, final-system manufacturers have limited incentives to formally grant component suppliers co-executor status.

The state customer contracts directly with the prime contractor, who bears full responsibility for contract execution.[60] Co-executors, by contrast, are engaged through separate agreements with the prime contractor.[61] In the event of delays or other contractual breaches, claims and sanctions are directed at the prime contractor, even if the delay is caused by a co-executor.

At the same time, component manufacturers are not always able to assume the rigid obligations typical of defence contracts—particularly due to dependence on imported supplies, logistics, or fluctuating utilisation of production capacity. This makes it difficult for them to guarantee fixed delivery timelines and volumes expected by prime contractors. In this configuration, parties may opt for a simpler supply arrangement through standard commercial contracts between enterprises, with more flexible payment terms and without granting the supplier co-executor status. While this preserves flexibility and reduces risks for both sides, it can deprive component manufacturers of a formal link to defence contracts and the associated support instruments.

56. Cabinet of Ministers of Ukraine, Some Issues of Implementing the Provisions of the Law of Ukraine "On Mobilization Preparation and Mobilization" Regarding the Reservation of Conscripts for the Period of Mobilization and Wartime, Resolution No. 76, January 27, 2023, section 2, https://zakon.rada.gov.ua/laws/show/76-2023-%D0%BF#n.
57. Cabinet of Ministers of Ukraine, On Approval of the Features of Conducting Defense Procurement During the Legal Regime of Martial Law, Resolution No. 1275, 2022, section 61, subsection 4, https://zakon.rada.gov.ua/laws/show/1275-2022-%D0%BF#Text.
58. Law of Ukraine, On Defense Procurement, Law No. 808-IX, July 17, 2020, article 33, https://zakon.rada.gov.ua/laws/show/808-20#Text.
59. Cabinet of Ministers of Ukraine, On Approval of the Features of Conducting Defense Procurement During the Legal Regime of Martial Law, Resolution No. 1275, 2022, section 13, https://zakon.rada.gov.ua/laws/show/1275-2022-%D0%BF#Text.
60. Civil Code of Ukraine, Law No. 435-IV, March 16, 2003, article 838, https://zakon.rada.gov.ua/laws/show/435-15#Text.
61. Law of Ukraine, On Defense Procurement, Law No. 808-IX, July 17, 2020, article 33, https://zakon.rada.gov.ua/laws/show/808-20#Text.

Potential Solutions

In light of these challenges, a reasonable policy response would be to expand the criteria for obtaining critical status as defined by Ministry of Defence Order No. 722. Specifically, this would involve supplementing the first criterion, which currently requires the execution or co-execution of defence contracts, with a dedicated pathway for component manufacturers based on their possession of supply agreements (B2B contracts) with prime contractors executing state defence contracts.

To prevent critical status from being granted to enterprises that do not, in practice, manufacture defence-related products, this approach should be accompanied by the introduction of a list of critical components for unmanned systems. This list would specify which types of components are recognised as critical. Such a list would be useful not only for determining critical status, but also for other state support instruments, including grant programmes, subsidized lending, and related measures. Under this framework, a manufacturing enterprise would be eligible to apply for critical status via the new pathway only if all of the following conditions are met:

- Its products are included in the list of critical components
- It holds active B2B supply contracts with current executors of state defence contracts
- Over the most recent reporting period, the volume of defence-related products supplied under these contracts to state defence contractors and other defence-sector customers exceeded 50% of the enterprise's total output

This approach preserves the requirement that at least 50% of production consist of defence goods, while linking it directly to the actual supply of critical components within defence procurement chains.

This solution is designed to address several current challenges:

- Formal recognition of small component manufacturers as participants in the defence industrial base: B2B contracts document their role in executing state contracts, making critical status accessible not only to final-system producers
- Access to tax incentives: Bringing suppliers of critical components into the defence procurement perimeter enables the application of legislated tax regimes (including VAT exemptions for defence products, where applicable), reducing the tax burden on localised components and improving their price competitiveness
- Expanded financial and workforce support: Critical status grants access to state-subsidized lending and allows for the reservation of up to 100% of personnel, reducing workforce and financial risks for component manufacturers and strengthening the resilience of the entire supply chain

At the same time, the introduction of a list of critical components creates additional regulatory and administrative requirements. Clear criteria must be defined for classifying components as critical, along with transparent procedures for inclusion and regular updates, in order to minimize room for subjective decision-making or lobbying.

Expanding the Conditions for Obtaining Critical Enterprise Status under Ministry of Defence Order No. 722		
What this proposal addresses	The proposed expansion would make it possible to include manufacturers of key components whose products are directly used at the front line. This would grant such enterprises access to state programmes and benefits for which critical status is a mandatory requirement	**Workforce reservation:** Granting an enterprise critical status would allow it to reserve up to 100% of its employees, reducing the vulnerability of defence production cycles that heavily depend on skilled personnel
Additional benefits	1. **Incentives for developing local manufacturers:** Formal recognition as a defence-industrial enterprise or co-executor opens access to tax incentives and other preferences, motivating businesses to invest in the production of critical components. Preferential conditions also help reduce production costs and improve competitiveness	2. **A list of critical components:** This instrument is useful not only for determining manufacturers' critical status, but can also be applied in other initiatives, including expanded tax incentives, state-subsidized lending, and additional forms of state support
Problems it does not solve	1. To apply for critical status, all B2B contracts must be active, and their counterparties must simultaneously be involved in executing state defence contracts	2. The cumulative value of goods supplied under these contracts must exceed 50% of total output, which may create additional barriers for enterprises with diversified order portfolios. Documenting compliance across multiple B2B contracts may prove challenging
Additional challenges introduced by this proposal	Implementing the mechanism would require agreement on criteria for forming the list of critical components and the development of a full-fledged operational system, including procedures for administration, regular updates, verification, and monitoring. It is also essential to ensure alignment between this list and the UCGFEA classification, in order to avoid definitional discrepancies and simplify application for both public authorities and manufacturers	

The Importance of Interagency Coordination

Component manufacturers emphasise that the current regulatory system remains fragmented: each authority introduces rules within its own remit, but there is no coordinated mechanism for their interpretation and application. As a result, enterprises often lack clarity on where to apply, which documents to submit, what confirmations to provide, and how to avoid the risk of violating defence-related regulations that may lead to sanctions or fines. Moreover, as the initiatives proposed in this study are implemented, the number of stakeholders, supervisory bodies, and procedures involved will only increase. To minimise these barriers, systematic coordination among responsible authorities is essential, both during the introduction of new rules and throughout their practical application.

A practical solution could be the establishment of a permanent interagency working group—bringing together the Ministry of Defence, the Ministry of Economy, the Ministry of Digital Transformation, the Ministry of Finance, and representatives of the General Staff and other relevant bodies—to serve a consultative function for component manufacturers. Such a group could prepare concise guidance on key procedures, publish standardised lists of required documents, and develop a clear roadmap for enterprises. This would significantly reduce regulatory uncertainty and minimise compliance risks for businesses.

Interaction Between Manufacturers

Representatives of military workhouses have repeatedly noted that component manufacturers generally lack sufficiently active engagement with military units. This makes it more difficult to account for real-world operating conditions and can negatively affect the quality of final solutions. At the same time, effective communication is critical across the entire defence-industrial ecosystem—between component manufacturers, final-system developers, and the front line. Strengthening continuous working links among manufacturers, workshops, and military units would allow changes in battlefield conditions to be translated more rapidly into technical solutions. This requires maintaining stable communication channels and an operational presence in frontline cities, enabling faster alignment of requirements and product adaptation. Component manufacturers need to understand the technical needs of final-system developers, while those developers must be aware of the current capabilities of Ukraine's component market.

Military workhouses play a central role in this exchange, providing all participants in the supply chain with access to unit-level needs and operational feedback. Existing initiatives help structure this interaction: the Library of Components facilitates communication between component manufacturers and final-product developers, while Brave1 Market connects final-system producers with military personnel.

These platforms provide baseline information on manufacturers, but they do not enable full three-way interaction. Rather than maintaining two parallel systems, it would be more effective to create a single platform that functions both as a public "showcase" and as a communication tool. Industry associations and clusters, bringing together both component manufacturers and final-solution producers, also serve as important connectors, acting as focal points for aggregating and aligning supply and demand within the sector.

One practical format for improving interaction could be short technical sessions organised by Brave1, featuring presentations of component manufacturers' capabilities and discussions of the practical requirements of final-system producers. To strengthen links between component manufacturers and military workhouses, and to better reflect evolving operational needs, a centralised feedback collection mechanism could be introduced through the same Brave1 Market-based system. This would involve identifying shared requirements across units as well as critical parameters that may vary (for example, operating frequencies). Brave1 would collect, structure, and relay this information to manufacturers, and on a quarterly basis produce a list of priority tasks for product adaptation.

Conclusions

At the start of the full-scale invasion, it was difficult to imagine that within two to three years Ukraine would be capable of producing more than two million unmanned aerial vehicles annually. At the time, many sceptics saw little value in developing domestic production capacity instead of relying on “cheap imports,” especially when “Ukrainian drones” were often little more than foreign platforms assembled locally. The mobilization of engineers, volunteers, the private sector, and the state proved otherwise. Today, Ukraine enjoys a technological advantage precisely because it recognised that localization is not an end in itself, but a tool. The true measure of success is not the percentage of “Ukrainian content” in a drone, but the ability to rapidly create, adapt, and scale critical technologies. In this sense, the development of the component market is an investment in flexibility, speed, resilience, and long-term technological independence.

The component market today stands at a point similar to where the drone market was two years ago. Engineers and entrepreneurs are already developing key components, but they lack the same “push” that once transformed the unmanned systems industry. The situation is almost a mirror image: demand exists, motivation is strong, and potential is clear—what is needed is a modest degree of support to set the market engine in motion so it can then operate independently.

A comprehensive set of state policies can become this decisive accelerator. Improved tax conditions, expanded access to working capital through credit programmes, support for capital investment at early stages, the attraction of foreign investment, and a well-calibrated localization policy at the procurement level can together create a durable foundation for the sector.

Equally important is the establishment of an effective communication chain between component manufacturers, final-system producers, and the military. This enables technologies to be adapted to real frontline needs.Achieving this requires not only state support, but also proactive engagement by manufacturers themselves (both component suppliers and drone producers) to build standards and sustainable cooperation mechanisms and, above all, to create what is genuinely needed on the battlefield.

The development of component manufacturing will deliver results far beyond a single industry. It will strengthen the economy, reduce dependence on foreign supply chains, increase the effectiveness of weapons on the front line, and enable technologies to be tailored to Ukraine’s unique combat conditions. Ultimately, it will reinforce Ukraine’s strategic position by enabling the country to independently scale defence solutions even amid external shocks or political volatility, and, over time, to become a key supplier of defence components for EU and NATO countries.

Ukrainian military and technological innovation can become a global asset on par with the country’s combat experience. Ukraine often emphasises that it shares unique knowledge of modern warfare with its partners. Yet an even greater strategic value will lie in Ukraine’s ability to produce critical military technologies through full or deep production cycles. The combination of practical battlefield experience and the capacity to rapidly manufacture innovative components positions Ukraine as a potential centre of military technology in Europe. This will not only strengthen national defence, but also establish Ukraine as a key partner of the West in the field of military innovation.


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