

# Defense TECH MONTHLY

Edition 11.0

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*25,000 UGVs: Ukraine Doubles Its Procurement*

*Ukraine's An-28 Evolves as Interceptor Carrier*

## MISSILE GAP

*Get in Line or Find an Alternative — Patriots Are Running Short*





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## NORTHEAST (SUMY-VOVCHANSK-KUPIANSK-YAMPIL):

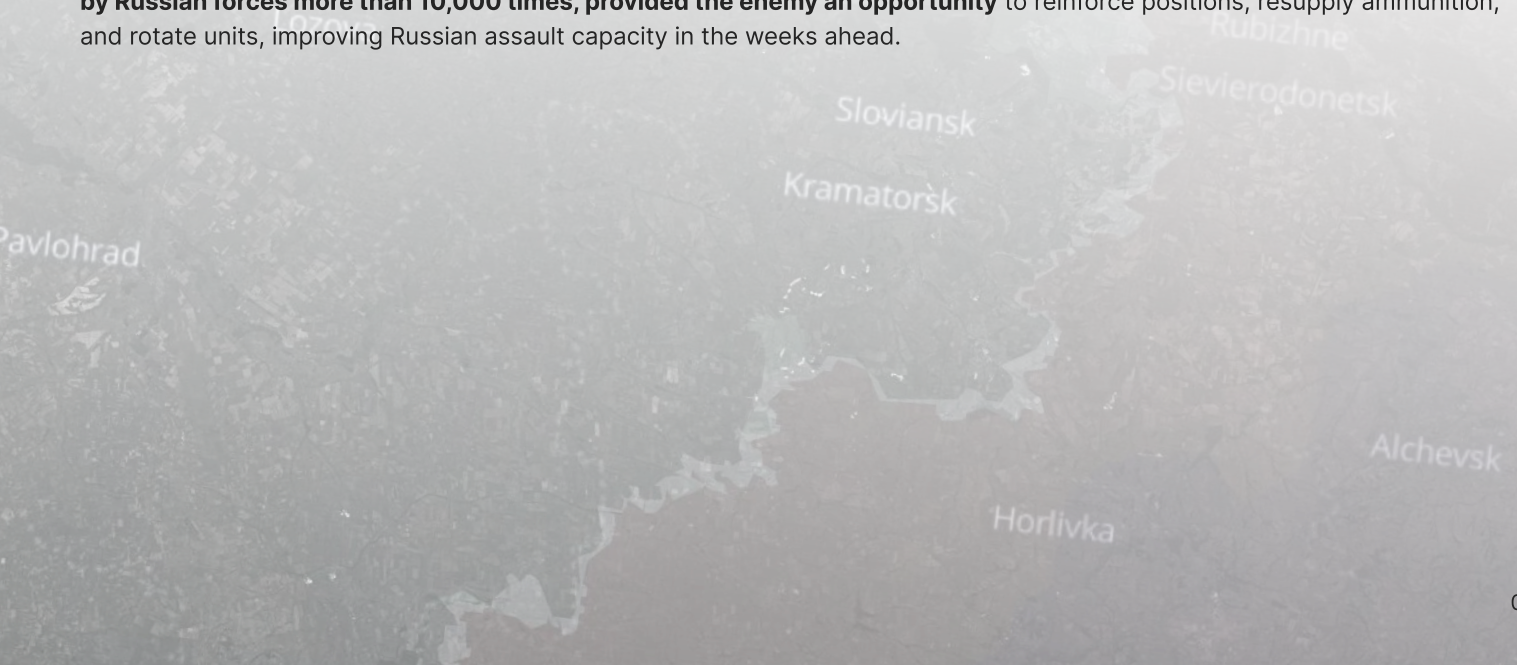
Russia continues its aggression while losing approximately **30,000–35,000 personnel per month since the start of 2026**. In April, at its current pace of advance, this translates into an estimated 200–250 soldiers lost for every km<sup>2</sup> gained. Enemy assaults continued near Vovchansk, with repeated attempts to enter Zybyne repelled. In the Kharkiv border area, Ukrainian forces conducted a successful clearance operation in forested terrain near Ambarne. In the Kupiansk direction, Russian forces intensified attacks, again attempting to use a large-diameter gas pipeline running **beneath the Oskil riverbed** as an axis of advance, while increasing pressure toward Petropavlivka and Pishchane. Yampil remains under Ukrainian control. **In Sumy Oblast, Russian forces continued efforts to establish a border buffer zone**, with confirmed enemy control and infiltration along the border reaching approximately 150 km<sup>2</sup>. The Belarusian flank remains a latent threat; however, an independent Belarusian offensive is unlikely. A more probable scenario involves Russian forces staging from Belarusian territory or the integration of Belarusian personnel into Russian units.

## EAST (KRAMATORSK-KOSTIANTYNIVKA-POKROVSK):

Russian forces continued to intensify pressure along the Sloviansk axis. **The capture of Sloviansk and Kramatorsk is assessed as a central objective of Moscow's summer 2026 offensive** aimed at completing the occupation of Donetsk Oblast, of which approximately **20% remains under Ukrainian control**. In Kostiantynivka, Russian forces are pushing large infantry concentrations into the city, with the heaviest infiltration attempts on the southeastern outskirts and active penetration on the eastern periphery near Novodmytrivka. Additional pressure is being applied from the Berestok and Illinivka directions. In the Pokrovsk–Myrnohrad agglomeration, Russian forces are consolidating control and reportedly relocating tube artillery into the city, leveraging Pokrovsk's elevated terrain to support further advances. Russian FPV drones maintain effective dominance over the area. Enemy forces continue efforts to establish footholds on the northern outskirts of Hryshyne, with advances extending toward Novooleksandrivka, Vasylivka, and Myrne. Rodynske is under sustained assault from guided aerial bombs and artillery as Russian forces attempt to advance toward Shevchenko. Near Rivne, continued enemy pressure is increasing the **risk of encirclement for Ukrainian forces holding the pocket around Svitle**.

## SOUTH (OLEKSANDRIVSK-HULIAIPOLE-ORIKHIV):

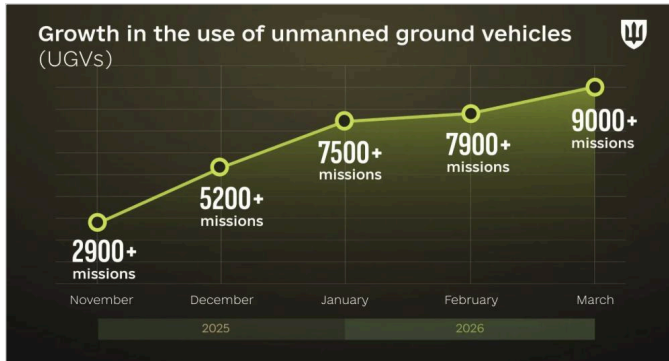
In the Oleksandrivsk direction, enemy attacks continued. Following last month's clearance of Berezove, **Ukrainian forces liberated Novoselivka in Dnipro Oblast**. In the Huliaipole direction, assault activity has intensified, with advances recorded toward Novoselivka in Zaporizhzhia Oblast. This open terrain northeast of Orikhiv is assessed as favorable for a wider envelopment maneuver; Russian forces will likely attempt to exploit it in the spring and summer to create conditions for encircling Orikhiv from the northeast. Notably, the **Easter ceasefire announced across the full line of contact, and violated by Russian forces more than 10,000 times, provided the enemy an opportunity** to reinforce positions, resupply ammunition, and rotate units, improving Russian assault capacity in the weeks ahead.





## ROBOTS AT THE FRONT: THE UGV RACE IN 2026

In the first half of 2026, **Ukraine is set to contract 25,000 UGVs for frontline deployment**, twice the total procured across all of 2025. The goal set is to take over 100% of frontline logistics, **up from 50-80% currently (value depends on weather conditions and frontline sector)**.



Growth in the Use of UGVs.  
Source: [Ukrainian Ministry of Defence](#)

The number of Ukrainian units operating UGVs grew **from 67 in November 2025 to 167 by spring 2026**, and strike and logistical **missions nearly tripled over the same period**, from around 3,000 to approximately 9,000. **With separate units carrying out more than 100 strike UGV operations over the past few months**, the overall growth trajectory of UGVs is expected to continue.

The picture on the Russian side is different, partly shaped by ongoing communication challenges and the Starlink blockade. Where Ukraine is actively expanding UGV strike capabilities, Russia has largely confined its UGVs to second-echelon support roles, delivering supplies and experimenting with mounting artillery systems.



Russian Courier and Impulse UGVs Fitted With Type-75 MLRS. Source: [stormdron](#) & [Drone Wars](#)

For instance, in April, footage emerged of the **Russian Courier** and **Impulse UGVs fitted with North Korean Type-75 107mm MLRS**. The standard stationary configuration uses 12 launch rails; the UGV-mounted version was reduced to 8, with an effective range of approximately 8.5 kilometers.

By early 2026, **North Korea was shipping roughly 33,000 containers of ammunition and weapons to Russia**, up from around 28,000 in mid-2025, when it already accounted for approximately 40% of all materiel used against Ukraine. Given the scale of Russian dependence on North Korean support, mounting the Type-75 on UGVs was a predictable step.



Courier UGV Fitted With an 82mm Mortar and a Robotic Arm. Source: [stormdron](#) & [texBPLA](#)

In early April, Russian sources also published footage of a **Courier UGV fitted with an 82mm mortar and a robotic arm for feeding rounds** — a concept that has been **in development since early 2026**, with testing likely underway by winter. With the mortar's working range of 3 to 4 km, any platform operating at that distance would be well within the kill zone and likely destroyed before completing a mission. The arm mechanism raises further practical questions: it is likely the weakest point in the design and the first component to fail under operational conditions. Dual loading is also poorly suited to automatic reloading, and the platform is probably too small to accommodate a breech-loading mechanism with a magazine feed. The underlying goal of automatic reloading still points in the right direction and remains an unsolved problem for Ukrainian manufacturers as well.



Courier UGV Towing a D-30 Howitzer. Source: [stormdron](#)

Separately, **another Courier UGV was filmed towing a D-30 howitzer weighing approximately 3.2 tonnes**, well above its **stated payload of 200 kg and tow rating of an additional 200 kg**. While the footage was shot on flat, unobstructed terrain, the gap suggests improvement in the towing capacity, pointing to broader utility as a logistics vehicle and potentially an artillery tractor.



## TRACKED IN REAL TIME: UKRAINE CONNECTS ITS RAILWAYS TO MILITARY AIRSPACE CONTROL

With 10% of all wartime hits on railway infrastructure recorded in Q1 2026 alone, Russia is targeting Ukraine's logistical backbone: disrupting military supply lines while reducing civilian passenger traffic to degrade defense capabilities and the broader economy.

In early April, in response to the escalating strikes, Ukrzaliznytsia, Ukraine's state railway operator, integrated its dispatch service with military airspace control systems. **Railway operators now track enemy strike UAVs in real time and adjust train movements accordingly**: rescheduling when threat levels permit, evacuating passengers when danger is real. Officials report that several trains have already avoided strikes as a result.

Coverage remains the central constraint: protecting trains would require extensive resources across multiple systems, and even that would not ensure reliable defense against every threat — fiber-optic drones with ranges now reaching 50 km and drones equipped with auto-lock terminal guidance being prime examples. Railway protection remains an open question, with Ukraine seeking a layered approach spanning early warning, electronic warfare, and air defense.



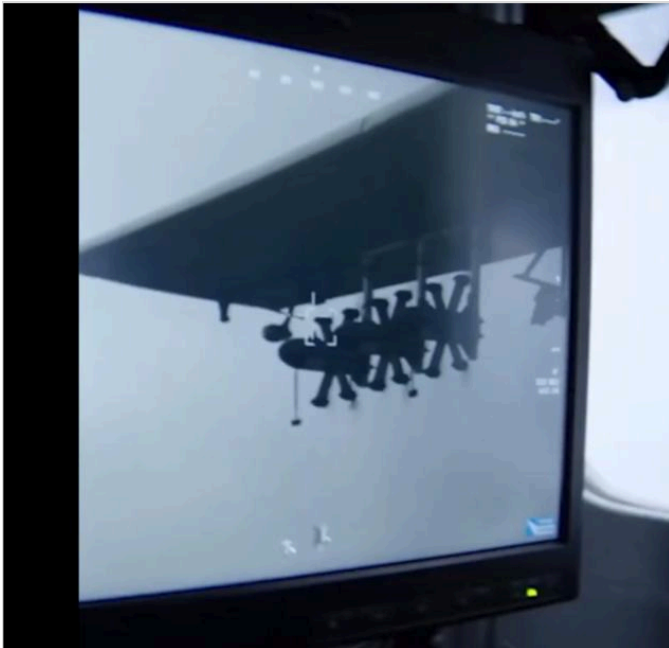
## THE LOW-COST AIR-TO-AIR MISSILE: UKRAINE'S AN-28 EVOLVES AS INTERCEPTOR CARRIER

In late April, [footage emerged of Ukraine's An-28 turboprop operating as an airborne interceptor carrier](#), carrying P1-SUN interceptors by Ukrainian SkyFall and American-made AS3 Merops drones on underwing hardpoints, with at least three mounting points per wing. Several other interceptor types were also evaluated during training flights.

The An-28 is also fitted with an optical system to detect targets visually, enabling crews to locate incoming drones before launching interceptors. **The interceptors serve as a low-cost alternative to traditional air-to-air missiles** and as a step toward operations in zero-visibility conditions, where an airborne platform can sustain sensor coverage and command links that ground-based systems usually lose.

The An-28 has retained its onboard miniguns as part of the new configuration. By the time the interceptor setup was unveiled, [the aircraft had already downed 222 Russian drones using its gun armament](#), meaning both systems can potentially be employed simultaneously.

The overall concept compounds the platform's existing advantages: STOL capability keeps it deployable from short, austere airstrips, extended loiter time supports standing patrols, and launching from altitude adds range and cuts interceptor response time. If scaled, **the concept offers a low-cost, operationally flexible addition** to Ukraine's counter-drone arsenal.



*Underwing Interceptor Drones (P1-SUN & Merops) on the An-28. Source: [aero.tim](#)*



## HUNTING THE HUNTERS: RUSSIA TURNS SHAHEDS ON UKRAINE'S MOBILE FIRE GROUPS

In April, [Russia began systematically targeting Ukrainian mobile fire groups](#), the short-range air defense layer that emerged in 2022 as one of the key countermeasures against Shahed drones. Within Ukraine's layered air defense architecture, [MFGs sit below long-range systems \(like Patriot\) and mid-range systems \(like NASAMS\)](#), engaging Shahed-type drones **with cheap direct fire along likely approach routes and preserving SAM missiles for higher-value threats.**

Russia is now **deliberately targeting MFG crews mid-engagement using a multi-drone tactic**: one Shahed draws the group's fire while a second hunts the vehicle. The drones carry cameras and are guided via LTE modems, fiber-optic, or mesh network, with [mesh modems reportedly vulnerable to Ukrainian EW suppression at 200 to 500 meters.](#)

Published footage carries visual overlays suggesting automated target acquisition and machine vision guidance, but Ukrainian officials claim the markers are post-production graphics and control remains manual. Even so, given the cameras on board, crews are advised to **mask vehicles and munitions with camouflage nets to "smooth the silhouette" of the vehicle.**

The deliberate targeting of MFGs, [with reports suggesting Shahed operators may be instructed to reprioritize targets mid-flight](#), shifting from the primary strike objective to the MFG upon detection, **underscores their effectiveness as obstacles to strikes on Ukrainian rear areas**, while also creating pressure to close the vulnerabilities this tactic exposes.



Ukrainian MFG in the Aim of the Shahed Drone.  
Source: [The\\_Wrong\\_Side](#)



## FPVS GROW WINGS: LOW-COST RANGE EXTENSION

In April, [a Russian Rubikon unit detected a Ukrainian FPV drone with an unusual configuration](#) — a wing mounted above a standard copter frame — carrying a PG-7 series warhead.



Ukrainian "Wing-Over-Copter" FPV Drone.  
Source: [GrandpaRoy2](#)

The "wing-over-copter" concept uses the additional lift generated by the wing to reduce the energy the drone expends, reportedly extending flight distances from 10 km to 30-50 km **on the same battery** and enabling strikes deeper into the enemy rear.

The underlying concept follows [a similar logic to the Russian "Knyaz Volodymyr Svyatoslavich" ring-wing fiber-optic FPV](#), which is assessed to achieve comparable ranges. The construction, however, differs significantly. While the KVS uses a fixed ring wing, the Ukrainian design features a wing that freely swivels to maintain its optimal angle of attack as the drone pitches during flight. Available footage also suggests **the wings may be jettisoned mid-flight**, restoring FPV's maneuverability.



Wing Mount Construction on an FPV Drone.  
Source: [VIUKSIDV](#)

While the design offers a low-cost range extension, it introduces trade-offs: added structural complexity reduces reliability, the larger wing surface increases radar cross-section, making the drone more detectable, and whether the platform retains the abrupt-stop maneuverability of a standard FPV remains unclear. The effectiveness and scaling of this solution on either side remain to be determined.



## THE "EPIC" MISSION: THE \$300M RESCUE INSIDE IRAN

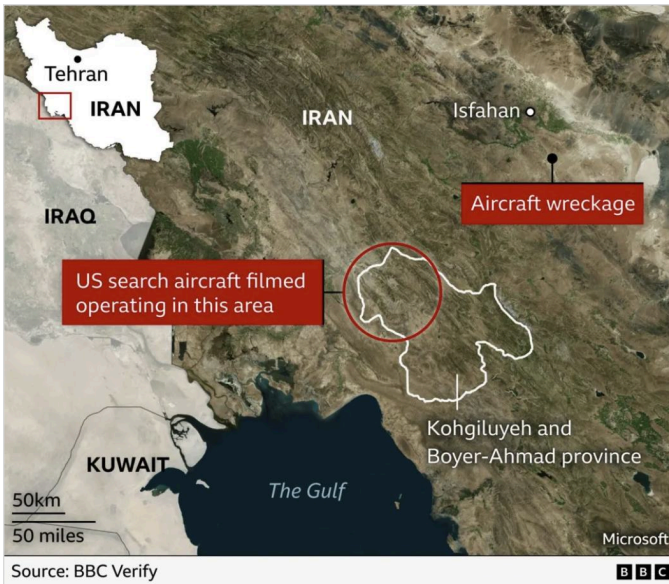
On April 3, [a U.S. F-15E Strike Eagle was hit by a shoulder-fired heat-seeking missile over southwestern Iran, marking the first confirmed loss of a crewed American aircraft to Iranian fire](#) since Operation Epic Fury began. Both crew members ejected and landed miles apart in hostile territory.

Moreover, during the mission, two MC-130J Commando II aircraft became stuck in soft sand after landing and could not take off, forcing a contingency extraction using three smaller, faster aircraft. The disabled planes were destroyed on the ground to prevent sensitive equipment from being captured. Both crew members were successfully recovered.

Losses and damage during the rescue:

| Asset                | Status  | Estimated Unit Cost |
|----------------------|---|---------------------|
| MH-6M Little Bird    | 2-4 lost  | ~\$2-4M             |
| MC-130J Commando II  | 2 destroyed ( <a href="#">deliberately destroyed by U.S. forces</a> ) | ~\$100-120M         |
| HH-60 Pave Hawk      | 2 damaged; crew injuries reported                                     | ~\$40M              |
| A-10C Thunderbolt II | Shot down; crashed over the Persian Gulf; pilot recovered             | ~\$20M              |

While the F-15E itself costs approximately \$100M to replace, the rescue operation mounted to bring its crew home cost an estimated \$300M or more in assets alone, before munitions expenditure and operational costs are factored in.



Approximate Location of the Mission Conducted.  
Source: [BBC](#)

The pilot was located and recovered within hours, while rescuing the weapons systems officer required a significantly larger effort. The U.S. mounted a rescue operation **roughly 400 km deep into hostile territory** and according to officials [involved 155 aircraft: four bombers, 64 fighters, 48 refueling tankers, 13 rescue aircraft, and additional support assets.](#)



# "I'M NOT THE ONE HITTING – THE WILLOW IS": UKRAINE'S APRIL DEEP AND MIDDLE STRIKE CAMPAIGN

**With 76 Russian industrial targets struck in March**, Ukraine has maintained its deep strike tempo in April against military, defense-industrial, and infrastructure facilities on Russian territory and is likely to escalate that tempo in May.

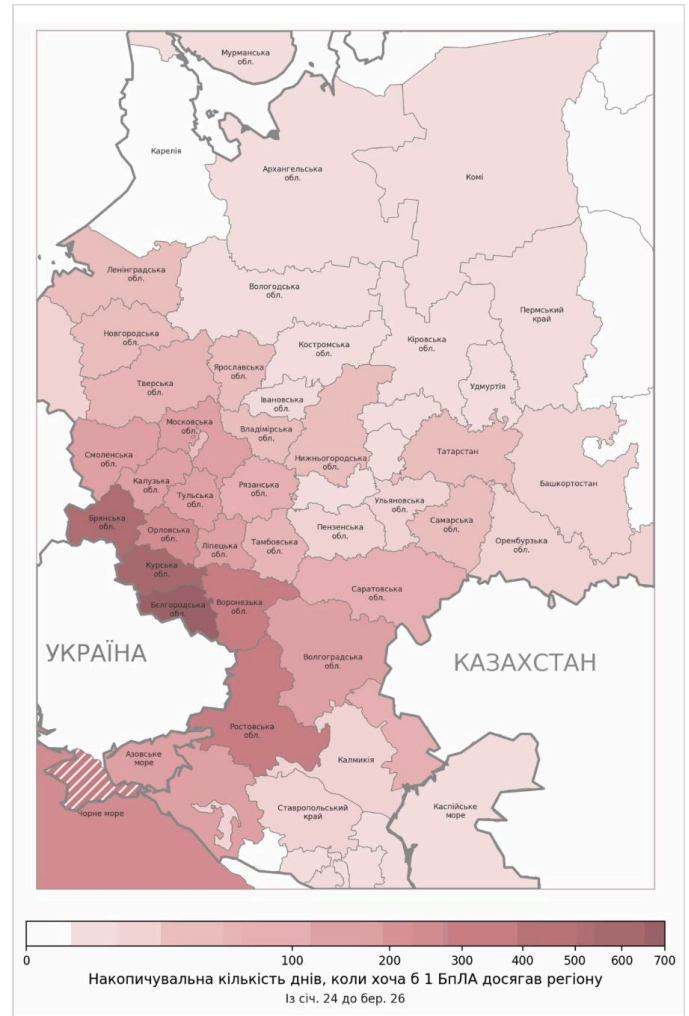


Monthly UAV Activity Over Ukraine and Russia, January 2024 – April 2026 (Red – over Russia, Blue – over Ukraine). Source: [Oboronka](#)

Over the past two years, the volume of Ukrainian long-range drone launches has grown steadily, **from approximately 110 UAVs in January 2024 to 7,500 in March 2026**, the highest monthly figure recorded to date and **the first time in a while that Ukraine surpassed Russia in drone launches**.

Late April figures — approximately 4,000 Ukrainian drones **reported downed by Russian air defense**, and approximately 6,300 Russian strike assets **recorded by the Air Forces of Ukraine** — reflect different counting approaches but are sufficient to assess the general activity level for the month: a slight decrease in attacks from the Ukrainian side. **Launch volumes are expected to recover in May, driven by the expansion of deep and medium-strike operations across four additional Unmanned Systems Forces** units and continued allied investment in Ukrainian defense production.

As the number of simultaneous targets increases, an already depleted and overstretched **Russian air defense is forced into increasingly selective prioritization**, leaving previously unexplored gaps that Ukrainian drones continue to exploit. In April, for instance, the geographic reach of Ukrainian strikes expanded to Sverdlovsk and Chelyabinsk oblasts, both around 1,700 km from Ukrainian-controlled territory.



Russian Regions Reached by Ukrainian UAVs: January 2024 to March 2026. Source: [Oboronka](#)



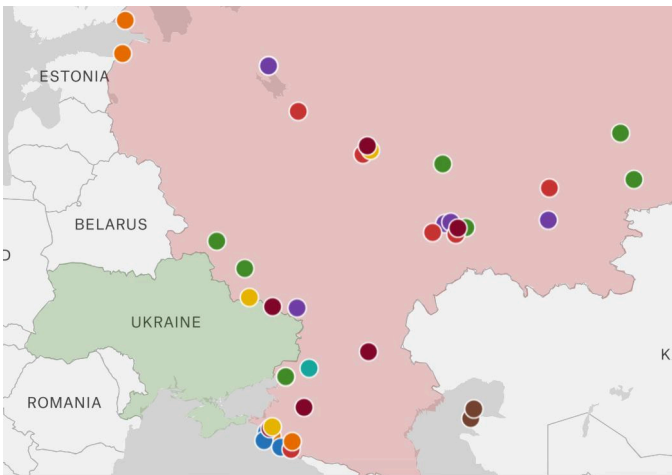
Sverdlovsk and Chelyabinsk Oblasts: Distance to Ukraine-Controlled Territory. Source: [Google Maps](#)



April strikes covered the full spectrum of Russia's war-sustaining infrastructure: oil processing, chemical production, defense industry, and naval assets. Beyond physical destruction, the campaign targeted **Russia's ability to generate revenue, maintain supply chains, and plan further offensive operations.**

Confirmed targets include, but are not limited to:

- Oil Refinery — 6
- Oil Export Terminal — 4
- Pipeline Infrastructure — 6
- Oil Extraction — 2
- Energy Facility — 3
- Chemical Industry — 6
- Defense Industry / UAV Base — 8
- Naval Target — 3
- Logistics — 1



Publicly Available Deep Strike Hits in April 2026.  
Source: [DniproOfficial](#), [exilenova\\_plus](#), [oko\\_gora](#)

With the U.S. having temporarily eased restrictions on Russian oil exports amid the conflict in Iran and rising global fuel prices, Russia received an opportunity to increase revenue through expanded export capacity. Ukrainian strikes were aimed at preventing that; a substantial portion of April's effort focused on Russia's oil infrastructure.

In April 16, **Ukraine struck the Tuapse Oil Refinery**, Russia's only Black Sea coastal refinery with 2 million tons of oil per year capacity. With repeated strikes on April 20 and April 28, **the refinery caught fire in at least ten places and halted production entirely**; the smoke plume reached Stavropol 300 km away, with locals reporting "oil rain."

Of the refinery's 46 storage tanks, 24 were destroyed (52%), 4 were damaged (9%), and 18 remained intact (39%), leaving 61% of total storage capacity non-operational in the near term.



Fire at Tuapse Oil Refinery Following the April 20 Strike.  
Source: [exilenova\\_plus](#)



Tuapse Oil Products Tank Farm: Damage Assessment After April Strikes. Source: [oko\\_gora](#)

Unlike most Russian refineries, which primarily serve the domestic market, **the Tuapse facility is almost entirely export-oriented**: oil products processed here are loaded directly onto shadow tankers for export. The timing of the strikes compounded the damage. Following the April 6 attack on the Sheskharis oil terminal in Novorossiysk — which handles roughly 14% of Russia's crude exports — **Russia had redirected supply flows to Tuapse just days before the attack**, with throughput expected to rise from the usual 500,000–600,000 tons per month to nearly 800,000 tons.

The cumulative effect on Russia's export revenues is significant. **Oil revenue losses from long-range attacks in March alone are estimated at no less than \$2.3 billion**, April losses are expected to exceed that figure. According to some estimates, **Russian oil output may have declined by approximately 300,000–400,000 barrels per day in April**, down from an average of 8.80 million barrels per day recorded in early 2026, marking the largest single-month drop in six years.



## MIDDLE STRIKE

While deep strikes hit Russia's strategic and economic depth, middle strikes clear the path that makes them possible, systematically dismantling the air defense coverage, logistics chains, and forward infrastructure that would otherwise stand in the way of deep strike drones. By late April, publicly available reporting from the [Unmanned Systems Forces](#), [Security Service of Ukraine](#), [Defence Intelligence of Ukraine](#), [Naval Forces](#), and [National Guard of Ukraine](#) confirmed at least 30 hits on various air defense systems.

Confirmed targets include, but are not limited to:

- SRBM Bases — 2
- HQ / Command Posts — 15
- Airfield Infrastructure — 7
- Ammunition Depots — 10
- UAV Depots / Forward Staging Areas — 7
- Fuel and Oil Depots — 13
- Naval Targets — 9
- Defense Industry — 1
- Logistics — 25
- Other — 11

The systematic destruction of air defense nodes across occupied territory has left Russia's coverage **increasingly thin and concentrated around a shrinking set of priority areas**, among them Moscow, the Alabuga industrial complex, Black Sea and Baltic port corridors, and presidential facilities. With **missile stocks for surface-to-air systems reportedly running low**, Russian forces are shifting toward improvised hybrid air defense solutions, including heavily relying on mobile fire groups.

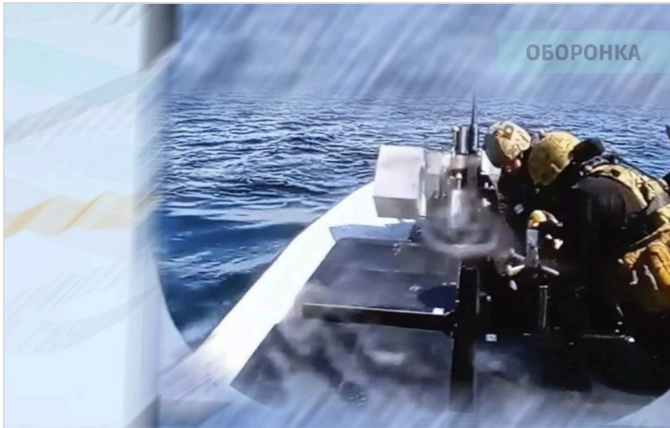


Russian R-77-1 Air-to-Air Missiles Adapted for Ground Launch on Ural-4320 Chassis. Source: [mag\\_vodogray](#)

The situation mirrors Ukraine's in 2022, when cost-effective solutions to counter mass drone attacks were largely absent. For Russia, the same pressure will likely produce the same outcome: **an accelerated push to develop dedicated drone interceptor systems**, a capability to watch for in the near future.

## SHAHED GOES SPLASHING: UKRAINE'S FIRST USV-LAUNCHED COUNTER-DRONE STRIKE

In April 2026, [the 412th "Nemesis" Brigade conducted the first recorded interception of a Russian Shahed drone by an interceptor launched from an unmanned surface vessel](#), marking a new level of integration between naval and aerial unmanned capabilities.



Equipment of the USV with Sting Interceptors.  
Source: [Oboronka](#)

Russia's standard tactic involves saturating Ukrainian air defenses through simultaneous mass drone launches. Launch constraints prevent dispatching the full group at once; drones are instead released in sequential batches and accumulate over the Black Sea, circling beyond the range of Ukrainian air defenses **until the complete group consolidates and advances toward the target**. The new approach **enables interception over water**, disrupting drone concentrations before an attack forms while eliminating the risk of debris falling on populated areas. It also extends engagement capability to reconnaissance UAVs that provide real-time targeting correction for Russian ballistic missile strikes.

The development of such technology required more than a year and [involved solving four technical and operational problems](#):

- **Detection.** Small radars can track both interceptor and target simultaneously, but limited range makes maritime fire control significantly more complex than over land, requiring an integrated network of larger radars and sensors.
- **Platform design.** Unlike expendable kamikaze USVs, an interceptor carrier must sustain repeated use and extended patrol cycles. The vessel incorporates launch containers, EW-protected communications systems, and a machine gun turret for self-defense within compact dimensions.
- **Interceptor.** The Sting interceptor employed in the mission is a next-generation platform with an advanced communications suite and remote launch capability.
- **Logistics.** Each deployment requires covert transit and route variation, with Russian forces actively monitoring the coastline and able to strike identified launch sites.

The capability remains at an experimental stage. If scaled, it would **establish a new maritime interception layer** capable of engaging drones coming from temporarily occupied Crimea before they reach Ukrainian coast. The approach may also interest Ukrainian allies seeking **cost-efficient solutions to the same Shahed problem in the Strait of Hormuz**.



## SPIRIT-030: RUSSIA'S YET ANOTHER BATTLEFIELD COMMUNICATION SOLUTION

In April, [Ukrainian drone operators from the 414th Brigade destroyed the first confirmed Spirit-030 satellite terminal on the front line.](#)



*Spirit-030 in the Camera of Ukrainian Drone / Spirit-030 at the Rubikon Center's Training Ground. Source: [serhii\\_flash](#) & [Anna News](#)*

The shift to geostationary terminals follows directly from the Starlink blockade. Russia's previous satellite systems relied on antennas up to 90 cm in diameter, making them a noticeable target for Ukrainian drones. **The Spirit-030 cuts that figure by two-thirds:** it is a portable satellite internet terminal with a 30–35 cm foldable dish, likely connecting through the Ekspress and possibly Yamal satellite series, which makes detection significantly harder.

While less noticeable and more portable than previous alternatives, the terminal is not a like-for-like Starlink replacement. Where Starlink delivers 20–60 Mbps, the Spirit-030 operates at 2–4 Mbps, due to the satellite's significantly greater orbital distance: 36,000 km for geostationary orbit versus Starlink's 550 km. The Spirit-030 also requires manual alignment with a fixed point in the sky, unlike Starlink, making it less convenient to deploy and reposition.

**[Russia had been observed using the Spirit-030 during exercises in Russia and Belarus roughly a year ago](#)**, but large-scale Starlink availability at the front meant there was no operational need to deploy it. Sources now confirm the terminal is appearing at the front with increasing frequency, and Russian domestic production capacity means scaling could be rapid.

Still, **[Russian forces continue attempting to access Starlink through other channels:](#)** terminals advertised on Telegram, registered by Ukrainian citizens and forwarded through third countries, or stripped from drones captured on the battlefield and repurposed for Russian UAVs. Most such attempts have failed, and those involved have faced criminal prosecution.

These workarounds remain fragmented, and current Russian alternatives to Starlink are limited in capability and early in deployment. But **communications infrastructure is one of the most critical constraints on the battlefield**, and the pressure to find workable substitutes is only growing. Both tracking emerging Russian solutions and developing national layered communication remain priorities worth accelerating.

## EUROPE IS COVERING THE BILL: THE MOBILE NETWORK BEHIND RUSSIA'S SHAHED CAMPAIGN

In April, [reporting emerged on the role of Russian mobile operator T2 \(formerly Tele2\) in the Shahed campaign.](#)

Every Shahed carries a T2 SIM card, supplied to drone manufacturers through dedicated operator orders, enabling remote control, telemetry transmission, and real-time video feed back to operators.

Ukraine has blocked T2 roaming on its networks; however, drones are **circumventing these restrictions by flying along border areas**, where they connect to Belarusian coverage in the north and switch to Polish or Romanian networks in the west and southwest. According to sources, the same SIM-based infrastructure may also account for the **unidentified drone sightings periodically reported across European airspace.**

Allied nations should terminate roaming agreements and international interconnect contracts with T2, reducing the operator to a purely domestic Russian network. As long as these agreements remain in place, **European mobile networks risk enabling Russian drone operations.**



## DIGITAL IRON CURTAIN: RUSSIA'S APRIL INTERNET OFFENSIVE

In April, Russia's digital crackdown expanded significantly. [The Ministry of Digital Development set an April 15 deadline for over 20 major platforms](#), including Yandex, Sberbank, VK, Wildberries, and Ozon, to block users detected using VPNs, with non-compliance threatening IT accreditation. Each company received a list of banned VPN services and is now required to report any newly identified tools to the regulator, Roskomnadzor.

To identify VPN users, companies deployed scoring systems cross-referencing IP reputation data and browser signals. The approach has a structural flaw: platforms cannot technically distinguish VPN traffic from ordinary foreign connections, meaning **Russians abroad face identical blocks regardless of how they connect**, losing access to banking apps, state portals, and booking services.

The pressure extended to telecoms operators: from April 1, topping up Apple ID balances via phone billing was blocked across all major operators, closing a common route for purchasing VPN apps. Operators were also pushed to cap VPN-routed traffic at 15 gigabytes per month, with surcharges applying beyond that threshold.

By mid-April, Telegram availability without a VPN had dropped to a record low of 5%. Frontline units relying on the platform for coordination lost a key communication tool, while [pro-regime channels shed around 40% of their views against 17% for opposition channels](#), whose audiences were already more likely to use VPNs.

[With frontline personnel losses outpacing recruitment and September parliamentary elections approaching](#), information control has become a strategic priority for Russia, and the sovereign internet a tool to enforce it — regardless of the collateral damage to business and operational communications alike.



## UKRAINE CUTS THE QUEUE: UKRAINE'S NEW PROCUREMENT MODEL

In April, [Ukraine's Cabinet of Ministers approved a resolution creating a formal fast-track procurement path for defence innovation](#). The Ministry of Defence can now purchase innovative products, software, and technologies under a simplified procedure specifically for battlefield testing, without requiring them to first meet full procurement standards. Units evaluate solutions under combat conditions, and that assessment determines whether a product enters the formal supply chain.

The change addresses a structural gap. Previously, Ukraine's centralised procurement system had no category for experimental acquisition, meaning innovative solutions from startups and private developers had no legal entry point regardless of battlefield relevance. New technology reached units sporadically, with no institutionalised feedback loop and no guaranteed path to scale.

A licensing mechanism introduced in October 2025 had already begun moving battlefield-developed technologies into manufacturing, [with 30 licenses issued by January 2026](#). The April resolution extends that logic to externally developed solutions, **replacing committee approval with combat validation as the deciding factor**. Ukraine is steadily replacing informal, case-by-case structures with standardised systems designed to reduce human error, limit external pressure, and scale what works faster than any manual process could.



A New Procurement Model for Defence Innovations.  
Source: [Ukrainian Ministry of Defence](#)

## THE INTERCEPTOR GAP: IN SEARCH OF ALTERNATIVES

Ballistic missiles are among the most difficult threats to intercept. Their terminal phase is hypersonic, and the window to respond is measured in seconds. Against this threat, the Patriot system has become the “benchmark” of air defense, **reliably intercepting ballistic and aeroballistic missiles including Iskander, KN-23, and the hypersonic Kinzhal.**

A Patriot is not a single launcher. It is a full battery that functions as an integrated system: radar, engagement control station, multiple launchers, interceptor missiles, communications, and power support. The PAC-3 MSE is the current operational standard for terminal-phase ballistic defense. Unlike older systems such as the PAC-2 GEM-T, which detonate near a target and rely on blast fragmentation to destroy it, the PAC-3 MSE is a hit-to-kill interceptor: it physically collides with the incoming missile and destroys it through direct impact. A dedicated radar seeker and a ring of small attitude control motors allow it to make precise last-second corrections, giving it the maneuverability needed to intercept fast, evasive ballistic targets that older interceptors cannot reliably engage.

**Ukraine fields approximately eight Patriot batteries,** received from the United States, Germany, the Netherlands, and Romania since 2023, far below the 20–25 assessed as necessary to maintain a reasonably resilient defense against ballistic threats. Against Russia's estimated production of around 1,000 ballistic missiles per year, **including approximately 60 Iskander missiles per month,** Ukraine has received **slightly over 600 PAC-3 interceptors across four years of full-scale war.** The performance ceiling of the PAC-3 MSE is not the limiting factor. The number of missiles available to fire is.

The operational consequences are visible. **Ukraine has reportedly reduced standard engagement practice from two to four interceptors per target to single-missile engagements,** driven by stockpile pressure. The contrast with U.S. forces operating in the Persian Gulf, where **three interceptors per target has been the reported standard,** illustrates the difference in available inventory between the two theaters.

The conflict in Iran brought those constraints into sharp relief at the global level. The U.S. and its allies **used an estimated 1,060–1,430 missiles for the Patriot system out of a pre-war supply of 2,330,** producing a cost-exchange ratio heavily in Iran's favor. Before the Iran conflict, global PAC-3 MSE production stood at approximately 650 interceptors per year, with both U.S. and Japanese manufacturing lines constrained by a single bottleneck: **Boeing-produced seeker heads.**

Earlier in 2026, **Pentagon officials announced a target to more than triple annual production, from approximately 650 to as many as 2,000 interceptors per year.** With each missile costing at least \$4 million, a \$4.7 billion contract signed in April 2026 is intended to support that expansion, with Lockheed Martin committing to significantly increase manufacturing capacity and the Boeing agreement addressing the seeker head bottleneck. Yet reaching 2,000 units annually will take several years. For now, **buyers must contract 29 months in advance before manufacturing even begins; both timelines far outpace the immediate operational need.**

In the interim, **the U.S. has withdrawn Patriot batteries from South Korea, delayed deliveries to Switzerland,** and requested that **Poland transfer interceptors from its own inventory to the Middle East,** a request Poland declined. Switzerland's 2022 order, expected by 2027, now faces a delay of four to five years. The U.S. military's fiscal year 2027 budget request **includes 405 PAC-3 MSE interceptors earmarked for naval integration,** with missiles developed for ground-based Patriot batteries being drawn into ship-based roles, further compressing available supply for allied forces.

The interceptors consumed against Iran are the same ones required for deterrence in the Indo-Pacific, **where U.S. stockpiles have consistently fallen short of what a high-intensity conflict with China would demand.**

Replenishment takes years, and global demand is not slowing down.

**The Patriot supply crisis has accelerated a procurement realignment in allied air defense** that was already underway, pushing countries toward a two-tier structure: systems capable of engaging ballistic missiles, and systems that fill adjacent layers more affordably.

| System  | Country        | Missile Cost                                   | Key Characteristics   | Availability  |
|---|----------------|--|---|---|
| Patriot<br><br>Source: <a href="#">Calibre Defence</a>                | USA            | ~\$4–5M  | Ballistic missile intercept; 120° radar aperture; hit-to-kill   | Limited; 29-month lead time; ~600/yr production scaling to 2,000  |
| SAMP/T NG<br><br>Source: <a href="#">MBDA</a>                         | France / Italy | ~\$1.5–3M                                      | Ballistic capable; 360° AESA radar; range up to 150 km  | Limited; 80–100 Aster interceptors/yr, scaling to ~300 by 2027  |
| David's Sling<br><br>Source: <a href="#">Defence Blog</a>            | Israel         | ~\$1M  | Ballistic capable; 250 km range; Stunner interceptor  | Constrained; Israeli stockpiles significantly drawn down  |
| IRIS-T<br><br>Source: <a href="#">Suprotiv</a>                      | Germany        | SLM: \$275,000–\$615,000<br>SLM/X: undisclosed | SLM: 30–50 km range; no ballistic intercept role<br>SLM/X: extended range to 100 km; altitude to 30 km; no ballistic intercept role | SLM: active exports; backbone of Ukraine's medium-layer defense<br>SLM/X: not yet in production; Diehl targeting 2,000 interceptors/yr by end of decade |
| NASAMS<br><br>Source: <a href="#">Defense Feeds</a>                 | Norway / USA   | ~\$1.4–4M                                      | 30–50 km envelope; uses AMRAAM stocks   | Widely available; AMRAAM stocks more plentiful than dedicated SAMs  |
| Iron Beam<br><br>Source: <a href="#">Israel Ministry of Defense</a> | Israel         | ~\$2,000–3,000 per shot                        | Laser system; short-range threats only; no ballistic intercept role   | Not yet at full operational scale   |

No alternative fully replaces Patriot in the ballistic intercept role at comparable readiness and production scale. Each represents a trade-off between cost, availability, and capability.

Still, **Europe cannot rely on the United States to supply sufficient quantities of air-defense missiles**, and is increasingly turning to local alternatives:

- **Denmark selected SAMP/T NG over Patriot**, citing delivery timelines and **Ukraine's operational experience with the system as key reasons**; up to eight divisions are expected, with deliveries beginning in 2028, making Denmark the third operator after France and Italy.
- **Turkey is negotiating a SAMP/T NG purchase and co-production arrangement** following NATO interceptions of Iranian missiles that entered Turkish airspace in March 2026.
- **Finland chose David's Sling after joining NATO**, becoming the system's first export customer.
- Sweden, which received Patriot batteries in 2022, is separately **procuring IRIS-T SLS** to address its medium-layer gap.
- The Netherlands **expedited a Patriot order in March 2026** specifically to hold its production slot, facing a 2033 delivery date otherwise.

Ukraine is pursuing a parallel path: reducing structural dependence on foreign interceptor supply **by developing a domestic anti-ballistic capability**. In April 2026, **President Zelensky announced a target to intercept a ballistic missile with a domestically produced system by the end of 2027**, at an estimated engagement cost of \$500,000–1,000,000 per interception, more than four times cheaper than a PAC-3 MSE engagement.

Development is proceeding under a **Germany-Ukraine strategic partnership** signed in April 2026. On April 15, Ukraine's firm Fire Point and Germany's Diehl Defence confirmed active negotiations over joint development; two days later, Defence Minister Fedorov met Diehl Defence CEO Helmut Rauch to advance the talks. **Germany is separately financing a €3.2 billion Raytheon contract for several hundred PAC-2 GEM-T missiles** for Ukraine's existing Patriot batteries, alongside 36 additional IRIS-T launchers distributed across 18 divisions.

The Patriot crisis is not a supply disruption that production increases will resolve in the near term. It is the visible result of a mismatch between procurement doctrine, optimized for quality and limited quantities, and the consumption rates of sustained high-intensity warfare. The strategic question, though, is **whether alternatives can be produced and delivered fast enough to cover the gap that opened**.



- Al Jazeera. "Russian Oil Exports Slump as Ukraine Hammers Ports and Refineries". Al Jazeera, 2026. [Link](#)
- Anna-News. "Станции 'Спирит-030' используют в центре 'Рубикон'". Anna-News, 2026. [Link](#)
- ArmyInform. "DeepStrike і MiddleStrike масштабують: СБС нарощують удари в глибині території РФ". ArmyInform, 2026. [Link](#)
- BBC. "How rescue of US airman in remote part of Iran unfolded". BBC, 2026. [Link](#)
- Calibre Defence. "PAC-3 MSE: Lockheed and Diehl Sign MoU to Expand Production". Calibre Defence, 2025. [Link](#)
- Censor.NET. "Russia Is Stepping Up Its Ballistic Missile Strikes, While Ukraine Lacks Patriot Systems". Censor.NET, 2026. [Link](#)
- Defence Blog. "Israel Used for First Time Newest David's Sling Missile Defense Systems". Defence Blog, 2018. [Link](#)
- Defence Express. "U.S. Navy Orders 405 MSE Missiles for Patriot Systems, Leaving Fewer for Export". Defence Express, 2026. [Link](#)
- Defence-UA. "Як рашисти 'вигадали велосипед' з 82-мм роботом-мінометом 'Багульник 82' та чим насправді цікава ця розробка". Defence-UA, 2026. [Link](#)
- Defensefeeds. "NASAMS Air Defense: The Shield Behind NATO's Missile Strategy". Defensefeeds. [Link](#)
- Defense News. "Netherlands Plans \$1.1 Billion Rush Order for Extra Patriot System". Defense News, 2026. [Link](#)
- Diehl Defence. "Sweden procures further IRIS-T SLS systems". Diehl Defence, 2026. [Link](#)
- Ekonomichna Pravda. "Укрзалізниця отримала доступ до військових систем моніторингу повітряного простору". Ekonomichna Pravda, 2026. [Link](#)
- Euromaidan Press. "Zelensky Puts March Price Tag on Russian Oil Hits: \$2.3bn in One Month". Euromaidan Press, 2026. [Link](#)
- Government of Israel. "Development of Iron Beam High Power Laser System Completed". Government of Israel, 2025. [Link](#)
- Hmarochos. "Укрзалізниця змінила правила безпеки і пояснює, чому краще евакуюватися з поїздів у поле". Hmarochos, 2026. [Link](#)
- House of Saud. "PAC-3 MSE Replenishment Gap: 2028 Delivery, 2026 Crisis". House of Saud, 2026. [Link](#)
- Kyiv Independent. "War in Iran Has Used Up Half of US Patriot and THAAD Missile Stockpiles". Kyiv Independent, 2026. [Link](#)
- Kyiv Post. "Ukraine to Receive New Batch of Patriot Missiles from European Partners". Kyiv Post, 2026. [Link](#)
- Lowy Institute. "In Ukraine, Ground Robots Are Increasingly Going on the Offensive". Lowy Institute, 2026. [Link](#)
- MBDA. "Denmark Chooses European SAMP/T NG to Protect Its Sky". MBDA, 2025. [Link](#)
- Militarnyi. "Türkiye Seeks Joint Production of SAMP-T Air Defense Systems with Italy". Militarnyi, 2026. [Link](#)
- Military Times. "The Rescue Mission That Brought 2 F-15E Strike Eagle Crew Members Home". Military Times, 2026. [Link](#)
- Military Watch Magazine. "Footage Shows U.S.-Supplied Patriot Air Defences Repeatedly Fail to Shoot Down Iranian Missiles Over Key Emirati Oil Facilities". Military Watch Magazine, 2026. [Link](#)
- Military Watch Magazine. "U.S. Withdrawing Patriot Air Defence Systems From South Korea to Redeploy for War Effort Against Iran". Military Watch Magazine, 2026. [Link](#)
- Ministry of Defence of Ukraine. "Hundreds of Patriot Missiles, €300 Million for Deep Strike Capabilities, and Thousands of Mid-Strike Drones: Ukraine and Germany Sign a Package of Defence Agreements". Ministry of Defence of Ukraine, 2026. [Link](#)
- Ministry of Defence of Ukraine. "Manufacturers Have Already Been Granted 30 Licenses to Use Ministry of Defence Technologies Developed by the Military". Ministry of Defence of Ukraine, 2026. [Link](#)
- Ministry of Defence of Ukraine. "Over 9,000 Frontline Missions in March: the Defence Forces Continue to Expand the Use of Ground Robotic Systems". Ministry of Defence of Ukraine, 2026. [Link](#)
- Ministry of Defence of Ukraine. "Масштабуємо оборонні інновації: уряд запустив нову модель закупівель, яка скорочує шлях від розробки до застосування". Ministry of Defence of Ukraine, 2026. [Link](#)
- News.d.ua. "Шахеди атакують мобільні вогневі групи: експерт роз'яснив, чи має до цього відношення штучний інтелект". News.d.ua, 2026. [Link](#)
- NV. "Frontline Situation: Russian Forces Advancing Almost Everywhere Due to Favorable Weather — Syrskyi". NV, 2026. [Link](#)
- NV. "Zelensky wants Ukraine to build European anti-ballistic system in one year". NV, 2026. [Link](#)
- Oboronka. "Black Sea Interceptors. How 412 Nemesis Started Shooting Down Shaheds from Unmanned Boats and Why It Matters". Oboronka, 2026. [Link](#)
- Oboronka. "Дрони кожного дня. Як Україна наздогнала Росію в кількості далекобійних безпілотників". Oboronka, 2026. [Link](#)
- Office of the President of Ukraine. "Declaration on a strategic partnership between Germany and Ukraine". Office of the President of Ukraine, 2026. [Link](#)
- OSW. "Russia Blocks Telegram and Cracks Down on VPNs". OSW, 2026. [Link](#)
- PikaBU. "Появилось видео буксировки 122-мм гаубицы Д-30 при помощи НРТК 'Курьер'". PikaBU, 2026. [Link](#)
- RBC Ukraine. "Росія продовжує використовувати Starlink на фронті, попри блокування, - ЗМІ". RBC Ukraine, 2026. [Link](#)
- Reuters. "Fire After Ukrainian Attack at Russia's Tuapse Refinery Hits Air Quality". Reuters, 2026. [Link](#)
- Reuters. "Russia's Rosneft Diverts Oil to Tuapse Refinery From Drone-Hit Novorossiysk Port, Sources Say". Reuters, 2026. [Link](#)
- Rossiyskaya Gazeta. "Прицеп позволил 'Курьеру' перевозить до 400 кг груза". Rossiyskaya Gazeta, 2026. [Link](#)
- Snake Island Institute. "Defense Tech Monthly: March 2026". Snake Island Institute, 2026. [Link](#)

- Snake Island Institute. "Holding Back the Sky: Ukraine's Air Defense Campaign, 2022–2025". Snake Island Institute, 2026. [Link](#)
- Suprotuv. "Системи протиповітряної оборони IRIS-T SLM – характеристики, для чого потрібні". Suprotuv, 2025. [Link](#)
- TASS. "Связисты Западной группировки начали применять станции связи "Спирит-030"". TASS, 2026. [Link](#)
- Telegram @aero.tim. [Post title needed]. Instagram, 2026. [Link](#)
- Telegram @DIUkraine. "Головне управління розвідки МО України". Telegram, 2026. [Link](#)
- Telegram @DniproOfficial. "Dnipro Osint ( Гарбуз )". Telegram, 2026. [Link](#)
- Telegram @dronbomber. "Українські зенітники збивають балістичні цілі однією ракетою Patriot замість двох-чотирьох". Telegram, 2026. [Link](#)
- Telegram @Drone\_Wars\_. "Russian forces reportedly continue experimenting with the NRTK "Kurier"". X, 2026. [Link](#)
- Telegram @exilenova\_plus. "Exilenova+". Telegram, 2026. [Link](#)
- Telegram @exilenova\_plus. "Сили Оборони запалили у Туапсе Вулкан 2.0 так має горіти кожен порт/НПЗ, який спонсорує терористичні дії московської влади". Telegram, 2026. [Link](#)
- Telegram @kpszs. "Повітряні Сили ЗС України / Air Force of the Armed Forces of Ukraine". Telegram, 2026. [Link](#)
- Telegram @mag\_vodogray. "Нещодавні фото з ерзац-ЗРК з російським ракетами класу «повітря-повітря» Р-77-1 з АР ГСН на шасі Урал-4320". Telegram, 2026. [Link](#)
- Telegram @mod\_russia. "Официальный канал Минобороны России". Telegram, 2026. [Link](#)
- Telegram @nemesis\_412. "Вперше у світі СБС збили «Шахед» дроном-перехоплювачем із надводної платформи". Telegram, 2026. [Link](#)
- Telegram @ngu\_war\_for\_peace. "Національна гвардія України | НГУ". Telegram, 2026. [Link](#)
- Telegram @oko\_gora. "Итоги атаки БПЛА по туапсинскому резервуарному парку в Краснодарском Крае". Telegram, 2026. [Link](#)
- Telegram @oko\_gora. "Око Гора. Новости и аналитика". Telegram, 2026. [Link](#)
- Telegram @robert\_magyar. "Офіційний канал Командувача СБС ЗСУ". Telegram, 2026. [Link](#)
- Telegram @SBUkr. "Служба безпеки України". Telegram, 2026. [Link](#)
- Telegram @serhii\_flash. "Противник демонструє, як він атакує екіпаж МВГ під Полтавою за допомогою керованого шахеда". Telegram, 2026. [Link](#)
- Telegram @serhii\_flash. "Після того, як ми позбавили ворога «Старлінка», питання супутникового зв'язку стало для росіян надзвичайно актуальним". Telegram, 2026. [Link](#)
- Telegram @serhii\_flash. "У росії є кілька операторів мобільного зв'язку, але є один, який наш противник максимально використовує для терору в Україні". Telegram, 2026. [Link](#)
- Telegram @soniah\_hub. "А от і ОК знищених "Геркулесів"". Telegram, 2026. [Link](#)
- Telegram @stormdron. "НРТК «Курьер» осуществляет буксировку 122-мм гаубицы Д-30 массой свыше 3 тонн в районе линии боевого соприкосновения". Telegram, 2026. [Link](#)
- Telegram @stormdron. "Эксклюзивное видео полигонных испытаний модуля минометного вооружения "Багульник-82" на шасси НРТК "Курьер"". Telegram, 2026. [Link](#)
- Telegram @stormdron. "Эксклюзивное видео стрельб из 107-мм РСЗО Тип 75 северокорейского производства на шасси НРТК "Курьер"". Telegram, 2026. [Link](#)
- Telegram @texBPLA. "В России разрабатывают роботизированный миномет на шасси «Курьер», разработка ООО «НРТК Капс»". Telegram, 2026. [Link](#)
- Telegram @The\_Wrong\_Side. "На кадрах поражение "Геранью" очередной МОГ ВСУ в районе Полтавы". Telegram, 2026. [Link](#)
- Telegram @ukrainian\_navy. "Військово-Морські Сили ЗС України | UA Navy". Telegram, 2026. [Link](#)
- Telegram @VIUKSIDV. "Подсмотрено на "обратной стороне"". Telegram, 2026. [Link](#)
- Telegram @zedigital. "Прискорюємо постачання НРК для фронту". Telegram, 2026. [Link](#)
- The Atlantic. "Read The Atlantic's Interview With Volodymyr Zelensky". The Atlantic, 2026. [Link](#)
- The Defense Post. "Denmark Selects SAMP/T NG Air Defense System Over US-Made Patriot". The Defense Post, 2026. [Link](#)
- The Defense Post. "N. Korea Increased Military Supply Shipments to Russia: Intelligence". The Defense Post, 2026. [Link](#)
- The Independent. "Ukraine's land robots are revolutionising the shapeshifting war with Russia". The Independent, 2026. [Link](#)
- The War Zone. "Ukraine's Drone-Hunting An-28 Turboprop Is Now Launching Interceptor Drones". The War Zone, 2026. [Link](#)
- Times of Israel. "Finland to Purchase Israel's David's Sling Anti-Missile System". Times of Israel, 2026. [Link](#)
- UA.News. "Flash Explained the Challenges of Protecting Trains Using Electronic Warfare Systems". UA.News, 2026. [Link](#)
- UA.News. "Strike on Tuapse: How the Ukrainian Armed Forces' Attack Is Hitting Russian Oil Exports". UA.News, 2026. [Link](#)
- UATV/Freedom. "Pro-Government Z-Channels Lose More Than 40% of Their Views in Russia — CCD". UATV/Freedom, 2026. [Link](#)
- UNN. "'Flash': Russia Is Reportedly 'Hunting' Mobile Fire Groups with Guided Shaheds". UNN, 2026. [Link](#)
- UNN. "Poland Refused to Transfer Patriot Systems to the Middle East After a US Request". UNN, 2026. [Link](#)
- X @GrandpaRoy2. "Another Ukrainian variant of a winged FFP, this time recorded by the Russians on a mission armed with a PG-7 series warhead". X, 2026. [Link](#)
- Yahoo News/Kyiv Independent. "War in Iran Has Used Up Half of US Patriot and THAAD Missile Stockpiles". Yahoo News, 2026. [Link](#)



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